988

1988 Annual Supplement

Health Care Financing Review

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Long-term care in international perspective

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Managing Editor
Health Care Financing Review
Rm. 1-A-9 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207

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The Health Care Financing Administration (HCFA) was established to combine health financing and quality assurance programs within a single agency. HCFA is responsible for the Medicare program, Federal participation in the Medicaid program, and a variety of other health care quality assurance programs.

The mission of the Health Care Financing Administration is to promote the timely delivery of appropriate, quality health care to its beneficiaries—approximately 50 million of the Nation's aged, disabled, and poor. The agency must also ensure that program beneficiaries are aware of the services for which they are eligible, that those services are accessible and of high quality, and that agency policies and actions promote efficiency and quality within the total health care delivery system.

The Office of Research and Demonstrations conducts studies and projects that demonstrate and evaluate optional reimbursement, coverage, eligibility, and management alternatives to the present Federal programs. In addition, ORD examines the impact of HCFA programs on health care status, utilization, and expenditures, as well as their effect on beneficiary access to services, health care providers, and the health care industry.

The Office of the Actuary directs the actuarial program for HCFA and monitors national health care expenditures and prices. OACT also provides analyses on the costs of current HCFA programs and the impact of possible legislative or administrative changes in the programs.

The Bureau of Data Management and Strategy operates HCFA's statistical data systems and maintains the national Medicare statistical files. BDMS also serves as the focal point within the agency for information systems policy, planning, and data standards development.

Statements contained in *Review* articles are solely those of the authors and do not express any official opinion or endorsement by the Health Care Financing Administration.

Health Care Financing Review

1988 Annual Supplement

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Health Care Financing Administration
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Editorial policy

The editorial policy of the *Health Care Financing Review* is comparable to that of other professional journals. The Executive Editor and Associate Editors decide which of the submitted articles are relevant to the health care financing field in general and to the Health Care Financing Administration in particular. *Review* readership is encouraged to submit appropriate manuscripts for consideration.

All articles of interest are sent to a panel of peers with expertise in the subject areas addressed, and they review articles in terms of substance, originality, validity, clarity, and significance. Their comments are transmitted to the authors. Authors whose manuscripts are accepted for publication are asked to make revisions based on these critiques.

The Managing Editor has responsibility for the publications standards of the *Review* and the editorial quality of the articles published, and the editorial staff work with authors on preparing their articles for publication.

The *Review* is published on a quarterly basis and each issue represents a balance between contributors from inside and outside the government. Some selective scheduling for publication is necessary because more articles are usually accepted each quarter than can be published in any given issue. However, we will publish all articles of interest that are accepted through the peer review process as space is available.

Preface

The 1988 Annual Supplement of the *Health Care Financing Review* is devoted to the topic of "Post-Acute and Long-Term Care." Each year, a different issue of high priority is addressed in the Supplement with articles that reflect a broad perspective of opinions and ideas in that area. We believe that long-term care, including the services provided to Medicare recipients and Medicaid beneficiaries in post-acute settings, namely, skilled nursing homes, home health agencies, and inpatient hospital rehabilitation facilities, are of great interest this year. In examining these issues, we were also curious about the amount of long-term care services that are being provided within the acute care setting.

This year we combined our annual meeting of the Office of Research and Demonstrations' technical advisory panel with preparation of this special edition of the *Review*. The purpose of this annual meeting is to convene a panel of subject matter and technical research experts to help critique and shape our research and demonstration agenda in a selected area that is considered to be timely and of special interest to the health care research community. Issues of health care delivery, financing, access, and quality in the post-acute and long-term care settings met these criteria. Therefore, the 1988 Annual Supplement includes a number of articles that were originally given as presentations at our technical advisory panel meeting held in February 1988. In several instances, we requested other authors to prepare articles that addressed issues beyond the scope of our own research agenda, but were of interest to our general readership because of their innovativeness or uniqueness. This Supplement reflects some of our own research and demonstration efforts to unravel the complexities of long-term care as well as other endeavors that pose creative solutions to a problem that faces us all.

It is estimated that more than 11 million Americans suffer from chronic illnesses and need partial or total support in the form of long-term care services. The populations needing long-term care are varied—the elderly, the developmentally disabled, the mentally retarded, and the mentally ill—and the services they require include the entire spectrum of health care and social services—hospitals, nursing homes, home health, transportation, meals, and housing. Much of the care provided to these individuals is provided by their own family members, often at terrific cost and personal sacrifice. Moreover, the public costs are certainly nontrivial. Long-term care expenditures amounted to approximately $45 billion in 1985, according to estimates from the U.S. Congressional Budget Office.

In one article in this Supplement, "A Perspective on Long-Term Care for the Elderly," William J. Scanlon states, "A considerable portion of the interest in long-term care emanates from concern about the growing elderly population—the demographic imperative." It is certain that the "graying of America" has prompted an increasing concern for the future of long-term care in this country—who will get it and who will pay for it. However, the fervor of debate at this particular point in time is unparalleled in recent history. Never before have all major Presidential candidates in a primary campaign had a stated position on long-term care and engaged in open discourse about issues of public versus private responsibility, private long-term care insurance, respite care, adult day care, etc. Certainly the efforts of the last 2 years to develop responsible legislation to protect American families against the costs of catastrophic illness, led by Secretary Otis R. Bowen, have fostered renewed interest in finding ways to also provide a measure of insulation against the often devastating costs of long-term care. In congressional hearings this past summer, legislators grappled with issues of projected future costs, the long-term care benefit structure, and financing mechanisms that hold the most promise of encouraging private contributions while continuing to provide a public safety net for those most in need. There are numerous bills on the Hill that would offer some tax-based relief for the financing of long-term care services, including tax credits for long-term care insurance premiums and individual retirement accounts for long-term care expenses. Other pending bills are far more extensive and would provide comprehensive long-term care benefits for the elderly, children, and disabled young adults.

As the Administrator of the Health Care Financing Administration, I have a special concern for the health care of all Americans. I am most dedicated to the quality of health care received by participants in the Medicare and Medicaid programs. It is an exciting time to be a part of serious deliberation and debate about the long-term care needs of our population and responsible ways to finance that care. In his article, "Long-Term Care: The Public Role and Private Initiatives," Thomas R. Burke writes, "As the range and breadth of related articles in this Annual Supplement issue of the *Health Care Financing Review* express, the problem is complex and, as a Nation, we are collectively struggling for solutions."

The *Review* wishes to express appreciation to all our contributors to the 1988 Annual Supplement for their individual perspectives and thoughtful, creative ideas, which we believe will help inform the debate on this important topic.

William L. Roper, M.D.
Administrator

Contents

Post-Acute and Long-Term Care

Long-term care: The public role and private initiatives
by Thomas R. Burke 1

A perspective on long-term care for the elderly
by William J. Scanlon 7

A descriptive framework for new hospital roles in geriatric care
by John A. Capitman, Jeffrey Prottas, Margaret MacAdam, Walter Leutz, Don Westwater, and Donna L. Yee 17

Trends in Medicare use of post-hospital care
by Marian Gornick and Margaret Jean Hall 27

Case mix for nursing home payment: Resource utilization groups, version II
by Don P. Schneider, Brant E. Fries, William J. Foley, Marilyn Desmond, and William J. Gormley 39

Case management for long-term and acute medical care
by John A. Capitman 53

The need for special interventions for multiple hospital admission patients
by Gerald M. Eggert and Bruce Friedman 57

Case management of persons with acquired immunodeficiency syndrome in San Francisco
by A. E. Benjamin, Philip R. Lee, and Sharon N. Solkowitz 69

Case management in capitated long-term care
by Rick T. Zawadski and Catherine Eng 75

Case management in the social health maintenance organization demonstrations
by Cathleen L. Yordi 83

Private sector initiatives in case management
by Mary G. Henderson, Barbara A. Souder, Andrew Bergman, and Ann F. Collard 89

Recent trends in financing long-term care
by Stanley S. Wallack 97

Financing services for developmentally disabled people: Directions for reform
by Arnold R. Tompkins, Margaret E. Porter, and Mary F. Harahan 103

Reforming long-term care financing through insurance
by Mark R. Meiners 109

Home equity conversion and the financing of long-term care
by Maurice D. Weinrobe 113

Long-term care financing through Federal tax incentives
by Donald W. Moran and Janet M. Weingart 117

State tax incentives for persons giving informal care to the elderly
by Michael C. Hendrickson 123

Nursing home regulation: History and expectations
by Thomas G. Morford 129

Respite care: Lessons from a controlled design study
by Rhonda J. V. Montgomery 133

Life care: New options for financing and delivering long-term care
by Marc A. Cohen 139

Long-term care in international perspective
by Pamela Doty 145

Contributors 157

Reviewers 161

Long-term care: The public role and private initiatives

by Thomas R. Burke

The ongoing effort of the U.S. Department of Health and Human Services to identify private financing mechanisms that can effectively assist the rapidly growing population of older persons in paying for long-term care expenses is discussed in this article. The focus on private strategies stems from the recognition that Federal and State sectors already pay almost one-half of all long-term care expenses, the proclivity of liberalized financing structures to raise total costs, and the tendency of public financing to dampen choice, flexibility, and access to care. In view of the improved economic situation of most older persons in our Nation today, the potential for market development of private financing options is thought to be excellent, particularly the market for long-term care insurance.

Introduction

In his State of the Union Address, February 4, 1986, President Ronald Reagan asked the U.S. Department of Health and Human Services to study and provide recommendations on ways that the private sector and government could work together to protect American families against the costs of catastrophic illness, including the sometimes devastating costs of long-term care. Secretary Otis R. Bowen, who has had a long-standing personal and professional interest in catastrophic health care costs, accepted this challenge.

In this article, the Department's ongoing, 2-year effort to identify private financing mechanisms that can effectively assist older persons in paying for long-term care expenses is discussed. The crux of the Department's work relates to two questions: "What works?" and "Who is responsible?" Thus, our work has considered not only which mechanisms seem to have the most potential, but also the appropriate roles and responsibilities of government and individuals.

This article is a progress report. The Secretary's *Report to the President on Catastrophic Illness Expenses*, which received considerable attention because of the Medicare acute catastrophic proposals, provided recommendations on the private financing of long-term care as well (U.S. Department of Health and Human Services, 1986a). However, the problem of establishing feasible and effective strategies for financing long-term care has by no means been "solved" by the Department's analysts, nor by others, and our work in this area continues.

As the range and breadth of related articles in this Annual Supplement issue of the *Health Care Financing Review* express, the problem is complex and, as a Nation, we are collectively struggling for solutions.

Private financing strategies

The Department decided early on to eliminate options which would rely solely on expansion of Federal financing. The factors that led us to focus on private financing strategies included: the current and future economics of long-term care, particularly the recognition that Federal and State sectors are already significant payers of long-term care; the tendency of liberalized financing structures to raise total costs; the tendency of centrally financed solutions to preclude flexibility and individual choice; and the advantages of access to personal, rather than public resources, in obtaining competitive, quality care.

The focus on private financing options was not based on a belief that private options can solve all of the problems associated with long-term care costs. Indeed, we were certain they could not. The role of government in providing a safety net is a strong principle in our country. We expect the public sector will continue to provide a safety net for people who cannot provide for themselves—those individuals and families faced with long-term care expenses well beyond ordinary means as well as low-income persons.

Demographics and demand

The urgency of developing financing strategies for long-term care increases in direct proportion to the growth of an aging society. In the next several decades, the number of older persons, particularly those over age 85, will increase rapidly. Persons over age 65 will grow from about 30 million persons today (U.S. Bureau of the Census, 1988), to more than 67 million by the year 2040 (Adler, Kitchen, and Irion, 1987). The number of persons over age 85 will quadruple.

Even looking at the near term—the year 2000, just 12 short years away—there will be about 10 million more Americans over the age of 65 than there were in 1980 (Social Security Administration, 1988a). The median age of the population will increase to 37 years, and retirees will live longer—women at age 65 will have a remaining life expectancy averaging almost 20 years, men nearly 16 years (Social Security Administration, 1988b).

These demographics mean that the number of disabled elderly persons is likely to increase dramatically, because the rate of dependency and need for long-term care services increase rapidly with age. Although less than 3 percent of persons 65-74 years of

Reprint requests: Marcy Gross, Office of Health Planning and Evaluation, Office of the Assistant Secretary for Health, Room 740-G, Hubert H. Humphrey Building, 200 Independence Avenue SW., Washington, D.C. 20201.

age need assistance with personal care activities such as eating, bathing, and dressing, about one-third of persons 85 years of age or over need such assistance (Doty, Liu, and Wiener, 1985).

Similarly, the rate of nursing home use also increases sharply with age, from about 1 percent of persons 65-74 years to 22 percent of those 85 years or over (Hing, 1987). If historic rates of institutionalization continue, the number of older persons in nursing homes will nearly double, to about 2.2 million residents by the year 2000 (Goss, 1988).

Paying for long-term care

In 1984, the last year for which separate figures for the elderly population are available, total health care expenditures for persons 65 years of age or over exceeded $119 billion (Waldo and Lazenby, 1984). The largest category was hospital care (45 percent), followed by nursing home care (21 percent). However, in terms of out-of-pocket expenditures, nursing home care constituted the single biggest health care expense for the elderly, accounting for about 42 percent of total out-of-pocket payments.

In 1986, national expenditures for nursing home care for persons of all ages totaled about $38 billion (Health Care Financing Administration, 1987). If the proportion of expenditures for the elderly remained approximately the same in 1986 as it was in 1984, then approximately $26 billion was spent on nursing home care for the elderly. By the year 2020, costs for nursing home care for all persons are expected to reach about $100 billion in 1987 dollars, assuming no benefit expansions in public programs (Rivlin and Wiener, 1988).

In 1986, almost one-half of all nursing home expenditures was paid by Federal, State, and local governments. The Medicaid program paid 41.1 percent, and an additional 6.4 percent was paid through Medicare, the Veterans Administration's programs, and other, non-Medicaid State programs (Health Care Financing Administration, 1987). Most of the remainder (51 percent) was paid directly out of pocket by older persons and their families. Private health insurance paid less than 1 percent of nursing home costs. It is this latter, private-sector portion that we think could be leveraged to become a significant factor in protecting the elderly from the financial burden of large out-of-pocket payments.

Although the number of older persons is increasing, the size of our future work force is decreasing. In 1987, there were 128 million Americans paying social security taxes and 38 million persons receiving benefits under the system, a ratio of 3.4 covered workers to 1 beneficiary. By 2030, projections indicate that there will be only 2 active workers per beneficiary (Social Security Administration, 1988b). The message: One should not look to additional social security taxes to finance increases in long-term care.

It also should be noted that the economic well-being of older persons today is better than ever. This reflects increased numbers of persons covered by better public and private pensions, increased earnings from assets, and wages earned in part-time jobs (U.S. Department of Health and Human Services, 1988a).

It may surprise many to learn that about one-half of the discretionary income of all Americans is earned by people over age 50 and that, after taxes, 20 percent of the incomes of those 65 years or over is discretionary (U.S. Department of Commerce, 1987). In general, the current economic picture indicates that older persons are in a better position than they were in the 1960's and 1970's to take advantage of private financing options, such as long-term care insurance, if these options are attractive and affordable.

Discretionary income also means that many older persons have the resources available to directly pay for modest amounts of long-term care needs, such as home health care services. According to data from the 1982 National Long-Term Care Survey, 88 percent of the disabled elderly living in the community have no out-of-pocket expenditures for formal home care services. Only about 3 percent spent more than 10 percent of income, and an estimated 1 percent (about 60,000 persons) spent more than 20 percent of income (U.S. Department of Health and Human Services, 1986b).

Unfortunately, a general picture of improved buying power does not extend to all elderly persons. An estimated 12 percent or so of elderly persons are living below the poverty line, and many others live close to that marker (U.S. Department of Health and Human Services, 1988a). These persons—many of whom are elderly women living alone, very old persons, and minorities—have few choices and will continue to need public assistance programs such as Medicaid to meet long-term care needs.

Induced demand and total costs

Any extensive long-term care financing system, public or private, that replaces a portion of out-of-pocket expenditures, can be expected to induce a certain amount of demand for services and raise overall costs. Although the decision to enter a nursing home is generally considered a last resort, one may assume that the availability of financing resources will affect the decision process in some way. Thus, if financial barriers are removed, the use of nursing homes will increase to some extent. This effect will be more pronounced if people actively desire the service being financed, such as might be the case with home care service.

The impact of induced demand can be lessened by assuring that the user of the services substantially shares the cost, especially the initial costs. Financing approaches should be designed so that they help families facing heavy costs for care avoid financial devastation rather than shield the consumer from true costs. It is to everyone's long-term benefit if the financing system is kept fairly lean while still assuring access to critical services.

Ideally, the financing available would allow families to avail themselves of nursing home care when the

disabled person is too sick to be cared for at home or when providing the care places too great a strain on the resources of the family. The system should also encourage the availability of other services that support family caregiving, such as home, respite, and adult day care.

Preserving choice and assuring quality

The term "long-term care" refers to a wide range of medical, health-related, and social services that may be required by a disabled person. The amount and kind of services needed by an individual do not depend simply on a person's condition. Rather, they depend on the living arrangements available, the availability of family and friends, the presence of community services, and other nonmedical factors.

This diversity of health needs, intermingled with social needs for housing, meal services, transportation, and assistance with household management, makes centrally developed and regulated approaches less likely to be appropriate, since choices are generally constrained. Public programs, which must achieve uniformity and equity, have much more difficulty in offering both choice and cost control.

Private financing options, which give individuals more control of their resources, may also foster more competition and better quality in the delivery system. Given the diversity of settings and services, it is difficult to closely monitor the quality of noninstitutional services. However, if families have access to private financing, they can simply take their business elsewhere if services are not up to par.

The role of government

The government's role in long-term care financing should focus on the traditional responsibilities of government—providing for those who have no private resources to pay for needed services. In addition, one of the most valuable contributions that government can make towards a society planning for its health care is to provide leadership and public education on the Nation's long-term care needs.

Even though the situation is improving, substantial numbers of older persons do not fully appreciate their vulnerability with respect to catastrophic nursing home care costs. The government could do more to help families understand the importance of considering long-term care needs as part of their retirement planning and assess the alternatives available. The government should also encourage the private sector, employers, and insurers to assess critical gaps in coverage being offered for long-term care needs.

This Department is working on a public information effort with several major business and professional organizations, including the American Medical Association, the American Hospital Association, the Health Insurance Association of America, the American Council of Life Insurance, the Society of Professional Benefits Administrators, and the American Association of Retired Persons. As a first step, the *Medicare Handbook* is being revised to include the message that long-term care benefits are not covered by the program and skilled nursing and home care benefits are limited to post-hospital, short-term needs (Health Care Financing Administration, 1989).

Future work will explore the possible use of news and other communications media to carry the message by means of special regional forums, existing Federal networks such as senior centers, and business groups such as Chambers of Commerce. The effort would target employers and working-age persons, as well as retired persons.

Development of private financing systems

The Secretary's *Report to the President on Catastrophic Illness Expenses* contained a number of recommendations in the long-term care area (U.S. Department of Health and Human Services, 1986a). Most proposals focused on ways to encourage the development and availability of long-term care insurance and incentives for increased savings for long-term care expenses. Similarly, in the congressionally mandated *Report to Congress and the Secretary by the Task Force on Long-Term Health Care Policies* (Task Force on Long-Term Health Care Policies, 1987), several tax incentive proposals were presented that would help expand the number of persons purchasing private long-term care insurance. A major thrust was to lower the age at which coverage would be obtained. Also favored were tax code changes to allow persons access to pension funds prior to retirement for the purchase of long-term care insurance.

It would be difficult to estimate the cost of these and related tax incentive proposals because there is so little data on which to base the estimates. The Department of Health and Human Services has been working with the Department of Treasury in its study of proposals involving use of the tax code. Treasury officials have indicated that a report for the President on the tax implications of long-term care proposals will be complete by late 1988 (VanAmringe, 1988).

Private long-term care insurance

Considering the extensive focus in both the public and private sectors on the potential of private long-term care insurance, a few comments on this particular option are in order. As is pointed out in other articles in this issue of *Health Care Financing Review*, the long-term care insurance market is still in its infancy. The critical question is, can it become a viable alternative? I think it can, if and when the market matures to a point that products reach a large number of people with affordable premiums.

Group, employer-based health insurance benefit plans allow the majority of our citizens to obtain

protection against acute care illness expenses. We believe the same strategy holds potential for long-term care expenses as well. To foster the growth of long-term care insurance, we must work to lower the cost and expand the number and variety of products on the market while encouraging the gradual evolution of employer-based, group insurance.

We recognize that there are impediments to the development of more affordable products. One problem often raised by the insurance industry is the uncertainty about the tax status of interest earned on long-term care insurance reserves (the monies that insurance companies put aside to pay future benefits). This is a technical problem, albeit an important one, but it is one that can be resolved either through a general Internal Revenue Service ruling or by legislation.

Another problem often cited is lack of employer interest in long-term care products. This was emphasized at the Secretary's National Conference on Retiree Health Benefits, held in Washington, D.C., in June 1987 (U.S. Department of Health and Human Services, 1988b). Business leaders discussed the legal, accounting, and statutory changes which are acting as barriers to development of employer-based, long-term care benefits, even if structured as employee-paid benefits. In particular, the lack of attractive prefunding alternatives for companies was stressed.

Despite these problems, I see positive signs that the situation is changing, with growing interest in long-term care insurance both on the part of individuals and among employers. This is heralded by the development of the first generation of group long-term care policies, by the dramatic increase in the number of companies offering individual policies, and by the number of policies offered in each State.

In 1986, the Department asked the Washington Business Group on Health (WBGH) to sound out its members on their views of long-term care benefits. They reported that virtually no companies were interested in providing or assisting development of such services (WBGH, 1986). Significant change was indicated when WBGH conducted a followup survey (Levin and Frobom, 1987). The WBGH polled 150 of the Fortune 500 companies and found that more than 38 percent had plans actively under way to develop long-term care insurance. An additional 26 percent of the companies polled indicated that long-term care services would be an important agenda item in the upcoming year. And, in fact, by the end of 1987, three major American corporations announced they would be offering long-term care insurance to employees, with at least one of the employers planning to contribute to the premium.

On the supply side, just a year ago there was no company in the country known to offer a group long-term care policy. At the end of 1987, however, the Health Insurance Association of America (HIAA) advised us that there were four companies marketing group policies (HIAA, 1987). Nationwide, the number of individual long-term care policies is estimated to be more than 400,000, double what it was 2 years ago (Task Force on Long-Term Health Care Policies, 1987). In a recent comparative analysis of long-term care insurance policies, *Consumer Reports* found 70 companies had entered the field, many with several different types of policies (Consumers' Union, 1988). HIAA also reports that every State now offers at least some choice in terms of individual long-term care policies and that many States now offer an average of 10-12 different policies from among which to select (HIAA, 1988).

It is not appropriate to view private insurance as a single solution. The Nation needs a pluralistic approach of options that offers choice, flexibility, and diversity and provides a mixture of private sector financing vehicles.

According to a recent report on long-term care financing from the Brookings Institution, commercial long-term care insurance and other private financing options have only limited potential for either reaching a significant portion of the elderly or offsetting out-of-pocket or Medicaid expenditures (Rivlin and Wiener, 1988). The estimates presented in this report may caution against too much optimism. However, I think they are more reflective of the limitations of our ability to make accurate 30-to-40 year projections than of the true potential of insurance.

I disagree with this assessment for several reasons. First, I doubt that the current system will continue forever as it is now. Second, I know that people do not buy only what they can "afford"; they buy what they want and what they cannot risk or afford being without as well. Third, I think that it is not just the group over age 65 that will be interested in long-term care insurance; younger people will buy insurance for their parents, if not for themselves.

An estimated 60-65 percent of the elderly of all income groups have purchased medigap policies, sometimes (inappropriately) several (U.S. Department of Health and Human Services, 1986a). I think that the long-term care market can achieve the same market penetration if allowed to develop without undue regulation and that effective incentives could be developed to make it happen sooner. A number of risk options can be estimated and a series of plans provided to cover each option. The private sector need not be bound by the "one size fits all" approach that is so common among Federal entitlement programs.

Conclusion

There is a lot more we need to know, and know quickly, in order to assure that our future long-term care system is responsive, effective, and desirable. The Department will continue to foster work in long-term care and wants to work with insurance companies, actuaries, and State Medicaid program directors, as well as the traditional academic community, to improve data on long-term care needs, financing, and the economic status of persons who need long-term care, including issues related to "spend down" of assets. Meanwhile, I salute the community of persons

who have been involved in research and demonstration efforts to understand more about our present system; many examples are highlighted by the articles in this special issue of the *Health Care Financing Review*.

Acknowledgments

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A perspective on long-term care for the elderly

by William J. Scanlon

Long-term care represents a significant burden to the approximately 7 million elderly in need, their families, and the Medicaid program. Concerns exist about access, quality, cost, and the distribution of the burden of care. In this article each area is discussed, highlighting the principal issues, identifying the unique aspects that pertain to long-term care, and exploring the implications for research and policy development. Future trends, especially the growth of the elderly population, are expected to affect significantly the provision of long-term care. The considerable uncertainty about how these trends may impact on long-term care is described, and the critical role social choice will play in shaping the future long-term care system is emphasized.

Introduction[1]

Considerable and deserved attention is currently focused on the delivery and financing of long-term care. More than 11 million Americans need some form of long-term care arising from chronic illnesses and conditions. Obtaining needed care is critical to the quality of life and sometimes to the survival of those in need. The duration of need, often years and sometimes decades, makes provision of long-term care burdensome and expensive to individuals and their families. Because individuals and families frequently lack the resources for needed care, the responsibility often shifts to the public sector.

Dissatisfaction and concern exist about the long-term care system or the lack of a system. It is often perceived as too expensive, as placing too great an emphasis on institutional care, as providing insufficient access and choice, and as not providing quality care. These concerns are intensified when future trends, which forecast large increases in the demand for long-term care, are juxtaposed with the perceived inadequacy of the current system.

The focus here is long-term care for the elderly. About 7 million elderly people have some type of long-term care dependency, ranging from need for help with ordinary household tasks to need for total assistance in every activity of daily living. It should not be overlooked that focusing on the elderly excludes significant numbers of other persons needing long-term care. Two to three million persons have developmental disabilities or mental retardation requiring substantial assistance. Another 1 to 2 million persons are partially or totally dependent because of chronic mental illness.

Background[2]

The approximately 7 million elderly persons needing some long-term care assistance comprise 24 percent of the total elderly population (Figure 1). They are dependent in activities ranging from household tasks to personal care. The former are commonly labeled as instrumental activities of daily living (IADL's), and they include tasks such as cooking, cleaning, and shopping. Personal care includes bathing, dressing, transferring, toileting, and eating; and they are labeled activities of daily living (ADL's).

About 30 percent, or 2 million, of the elderly needing long-term care have limited dependencies and require only IADL assistance. At the other end of the spectrum, 20 percent, or 1.4 million, of the elderly are almost totally dependent, needing assistance in virtually every ADL and IADL.

Simply being old does not imply a need for long-term care, as 76 percent of the elderly are fully independent. However, prevalence of long-term care need increases dramatically with age (Figure 2). For the young-elderly population, those between 65 and 69 years of age, 13 percent need some long-term care; among those 85 years of age or over, 55 percent require assistance.

About 22 percent of the elderly long-term care population reside in nursing homes and other institutions (Figure 3). More than 40 percent of the dependent elderly residing in the community live with their spouse, and the remainder are almost evenly divided between those living with others and those living alone.

Institutional use increases dramatically with the degree of dependency (Figure 4). Just 5 percent of those with only IADL limitations and about 12 percent of those with only one or two ADL limitations are in nursing homes. In contrast, 50 percent of those with five or six ADL limitations are in nursing homes.

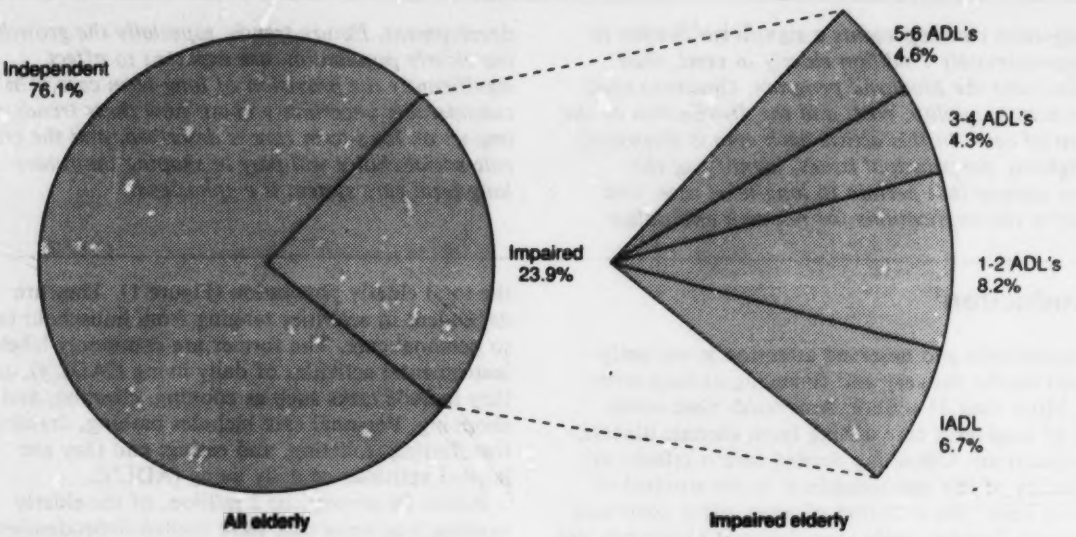
Even for the most extremely impaired, use of a nursing home is not universal. This is both an indication of and a tribute to the amount of care that is being provided in the community, primarily by families. Seventy-four percent of the people that remain in the community get all of their care from informal sources such as family or friends (Figure 5). Only 6 percent of the dependent elderly in the community rely exclusively on formal care sources.

[1]The data presented in this section represent conservative estimates of long-term care populations based on a synthesis of numerous studies evaluated by the Center for Health Policy Studies.
[2]A more detailed overview is presented in Doty, Liu, and Wiener (1985).

Reprint requests: William Scanlon, Ph.D., Center for Health Policy Studies, 2233 Wisconsin Avenue, NW., Suite 525, Washington, D.C. 20007.

Figure 1

Percent distribution of the elderly, by impairment status and degree of impairment: 1985



NOTE: ADL is activities of daily living; IADL is instrumental activities of daily living.
SOURCE: (Estimated from data in Macken, 1986, and Hing, 1987).

Concerns about the current system

Paramount among the continuing concerns regarding the long-term care system are questions of cost and efficiency. Long-term care expenditures amounted to about 45 billion dollars in 1985 (Congressional Budget Office, 1987). Eighty percent went for nursing home care. Spending on nursing homes, the only long-term care service for which spending can be monitored through time, has been one of the fastest growing components of health expenditures. Concern exists that both excessive nursing home utilization and unnecessary increases in cost per day have contributed significantly to the growth in nursing home spending. Such a perception is not uncommon with respect to health care spending in general. However, one needs to be careful about transferring notions of excess and inefficiency that exist regarding the health care system, in particular the acute health care system, to the area of long-term care. Rather than overuse, underuse may be the norm, and the production of services may be relatively efficient. Consequently, extreme caution must be exercised in trying to apply the prescriptions for acute care cost containment (reducing use and reducing unit costs) to long-term care.

Access to care

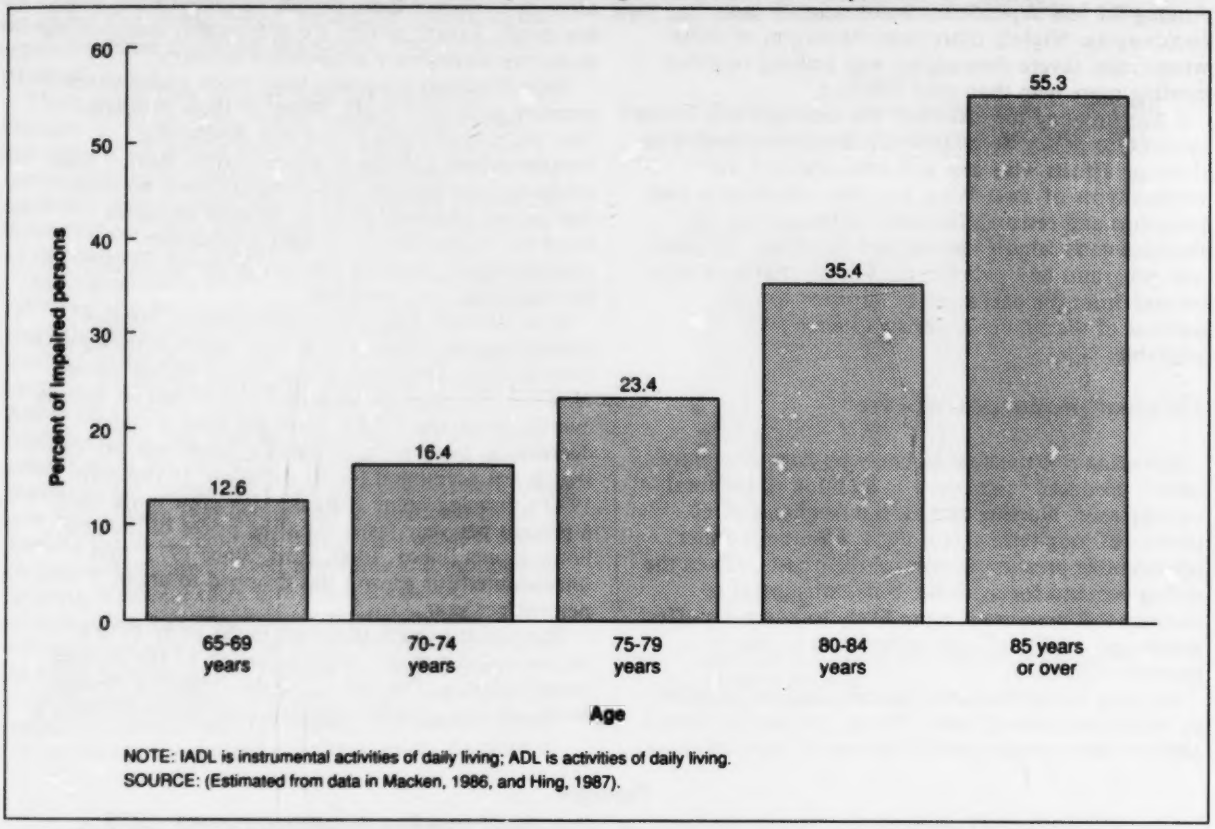
Despite a popular perception that extensive funding of nursing homes results in inappropriate utilization and the speculation that savings could result from reducing nursing home use by substituting home care, there is a need to be sensitive to the potential shortage of nursing home care. A shortage of beds certainly exists relative to demand. It may also be present with respect to the need for nursing home care.

The bed shortage stems from vigorous longstanding State activities to control Medicaid costs by limiting the supply of nursing home beds. The States have a real stake in controlling costs. Medicaid pays at least some of the costs of care for about 60 percent of nursing home patients. Nursing homes and nursing home expenditures represent about 35 percent of an average State's Medicaid budget.

Evidence of the bed shortage has been accumulating since the early 1970's. Nursing homes in virtually all areas consistently have extremely high occupancy rates. Hospital discharge planners, nursing home administrators, and representatives of long-term care consumers all report placement problems for different types of patients.

More quantitative data also suggest the presence of a shortage of beds. The experience of persons deemed to be at high risk of institutionalization living in areas with different numbers of nursing home beds was compared (Weissert and Scanlon, 1983). These persons were dependent in five to six ADL functions, unmarried, over 75 years of age, and had low incomes. In the 10 States with the largest number of

Figure 2
Effect of age on the probability of having an IADL or ADL impairment: 1984-85



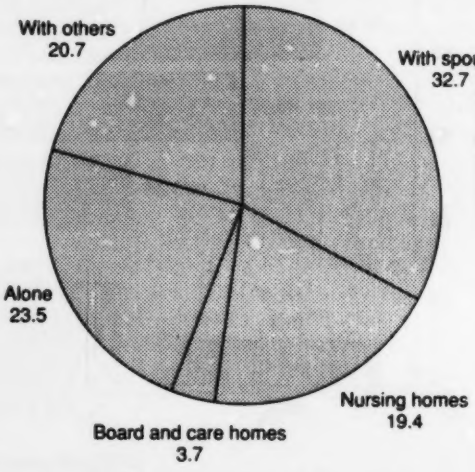
NOTE: IADL is instrumental activities of daily living; ADL is activities of daily living.
SOURCE: (Estimated from data in Macken, 1986, and Hing, 1987).

nursing home beds per elderly person, 92 percent of them resided in a nursing home. In the 10 States with the smallest number of nursing home beds, only 54 percent were in nursing homes. This does not imply that 92 percent should be the norm. However, the gap is large enough to suggest that more persons in the low bedded States would enter nursing homes and would be considered appropriately placed if more beds were available.

Although data in the analysis are from 1977 and available data do not permit it to be updated, the situation is unlikely to have improved. Since 1977, nursing home bed growth has not kept pace with the growth or aging of the elderly population. The number of beds relative to the expected number of users has declined 1.2 percent a year. There also has been no significant change in the extreme variation in the number of nursing home beds per elderly across States.

There is also evidence of under service in the community. When persons with ADL impairments were asked in the 1979 National Health Interview Survey whether they were getting all the help they needed, a significant share reported needing more help (Figure 6). Those persons needing assistance in virtually all activities (those with an eating or transferring dependency) got most of the help they needed. Although this is somewhat reassuring, persons

Figure 3
Percent distribution of the dependent elderly, by living arrangement: 1985



SOURCE: (Estimated from data in Hing, 1987; Macken, 1986; and Stone and Newcomer, 1985).

with severe dependencies who can not get needed assistance are likely to have to enter an institution. Among the less dependent, the situation is less encouraging. Slightly more than 50 percent of those whose most severe dependency was bathing reported needing more help than they received.

Understanding the effects of the shortage is essential to policy development in long-term care. The shortage affects who uses and who does not use various types of care. What has been observed in past programs and research has been influenced by the shortage constraining choices and outcomes. To plan new programs and policies, the lessons that have been learned from the past must be adjusted to take account of the supply of services that will be available.

Efficient production of care

Spending is influenced strongly by how efficiently care is produced (unit costs) in addition to the total volume used. Nursing homes, the recipients of 80 percent of long-term care dollars, have been under considerable pressure to control their costs. Given the strong demand for available beds, attempting to increase this pressure is more likely to adversely affect access and quality of care rather than to simply improve efficiency.

Nursing homes have traditionally had an incentive to avoid unnecessary costs. Private pay and Medicaid patients account for over 90 percent of their revenues. In caring for private patients, costs that do not improve a home's product and enable it to charge more or to attract more private patients simply imply less profit. Lower profits are presumably unappealing in an overwhelmingly proprietary industry.

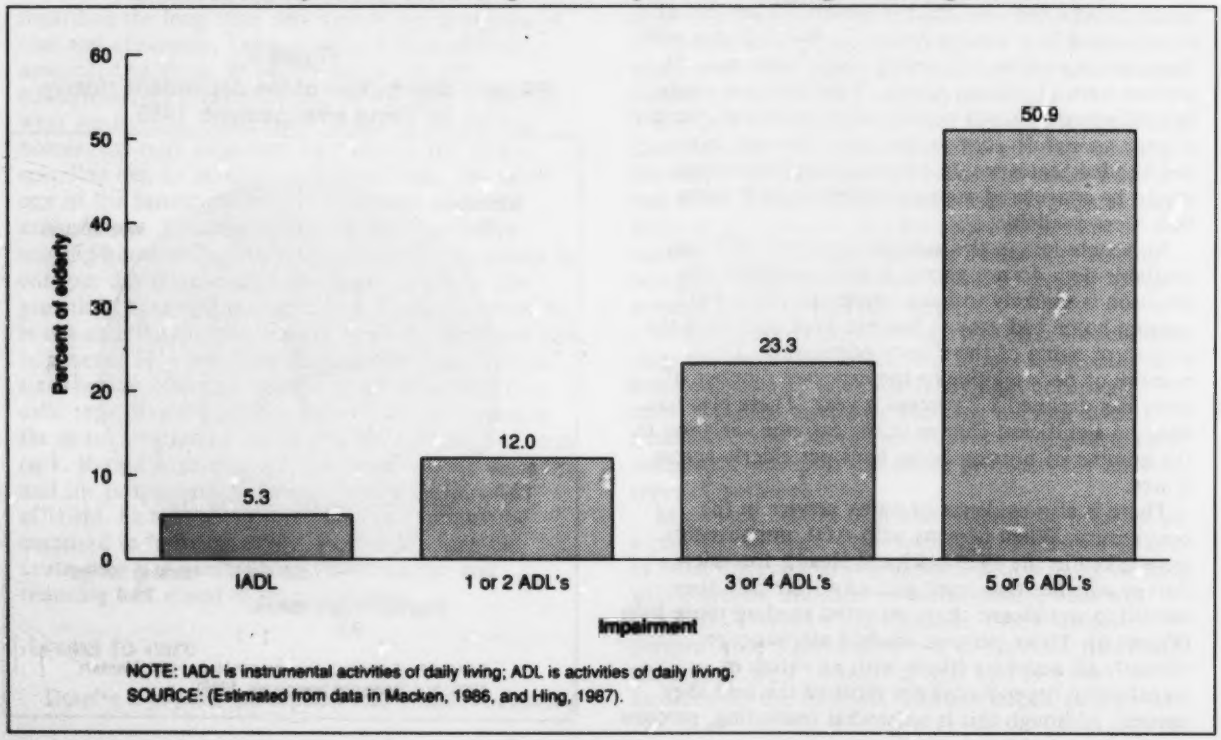
State Medicaid programs have often added to the pressure to control costs. Many of these programs have put considerable effort into developing reimbursement policies to contain costs. Rather than adopting retrospective cost-reimbursement methods that permit increased costs to become increased revenues, States have long used prospective-reimbursement methods that break the direct link between costs and revenues.

How strongly Medicaid reimbursement policies contain nursing home cost growth varies considerably from State to State and across homes within States. However, the policies do seem to have had an impact overall. Since the 1970's, there has been a major decrease in the growth of nursing home cost per day that is not accounted for by inflation. In the early 1970's, nursing home costs per day grew more than 6 percent per year faster than the prices of nursing home inputs (labor, food, etc.). Since 1977, that unaccounted for growth has dropped to about 2 percent per year.

The higher growth observed in the early 1970's accompanied a major transformation of the nursing home industry. The role of public financing through Medicaid was greatly expanded, and with that came a

Figure 4

Percent of elderly with different degrees of impairment residing in nursing homes: 1985



NOTE: IADL is instrumental activities of daily living; ADL is activities of daily living.
SOURCE: (Estimated from data in Macken, 1986, and Hing, 1987).

demand that nursing homes be upgraded. Staffing requirements, both in terms of numbers of staff and higher skill levels, increased. Process regulations were expanded and strengthened. Structural specifications, especially those involving fire safety, became more stringent.

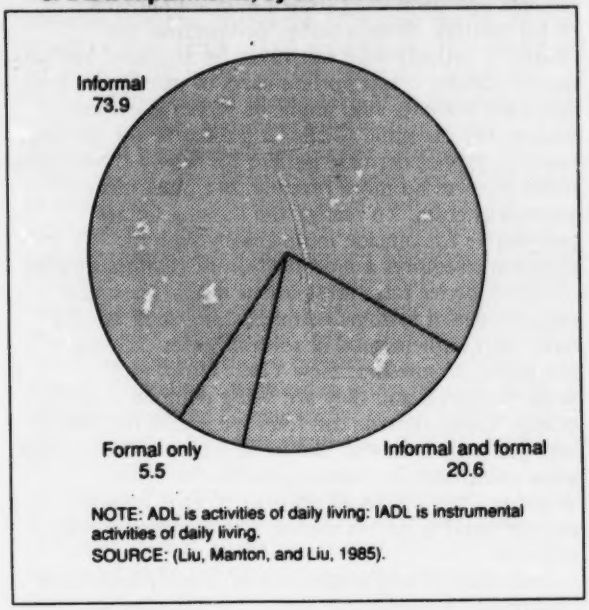
These regulatory reforms induced significant changes in the industry. Many small homes closed, and new larger homes entered the market. Existing homes desiring to continue in business took the necessary steps to meet the new standards. Financing these changes likely accounted for a significant share of the cost-per-day growth in the early 1970's.

The significantly lower growth in cost per day since 1977 can also be correlated with prevailing policies. Until the passage of the Omnibus Budget Reconciliation Act of 1987, widespread initiatives to improve quality by increasing standards were absent. Although a desire to control costs undoubtedly contributed to this inaction, concerns that increased resources do not guarantee increased quality also played a role. States were also interested in controlling new bed growth that would add to Medicaid costs. Besides the direct controls they placed on new beds through certificate-of-need programs and moratoria, keeping Medicaid rates low was a means of discouraging investments. Accomplishing this objective became easier as States increased their skill in using reimbursement policies to control costs.

Increasing pressure to reduce future costs may have negative consequences for quality and access instead of producing the desired efficiency gains. Because of virtually guaranteed high occupancy, nursing homes have little need to compete. A likely response to lower Medicaid reimbursement is therefore a reduction in staff and other resources devoted to providing care.

Figure 5

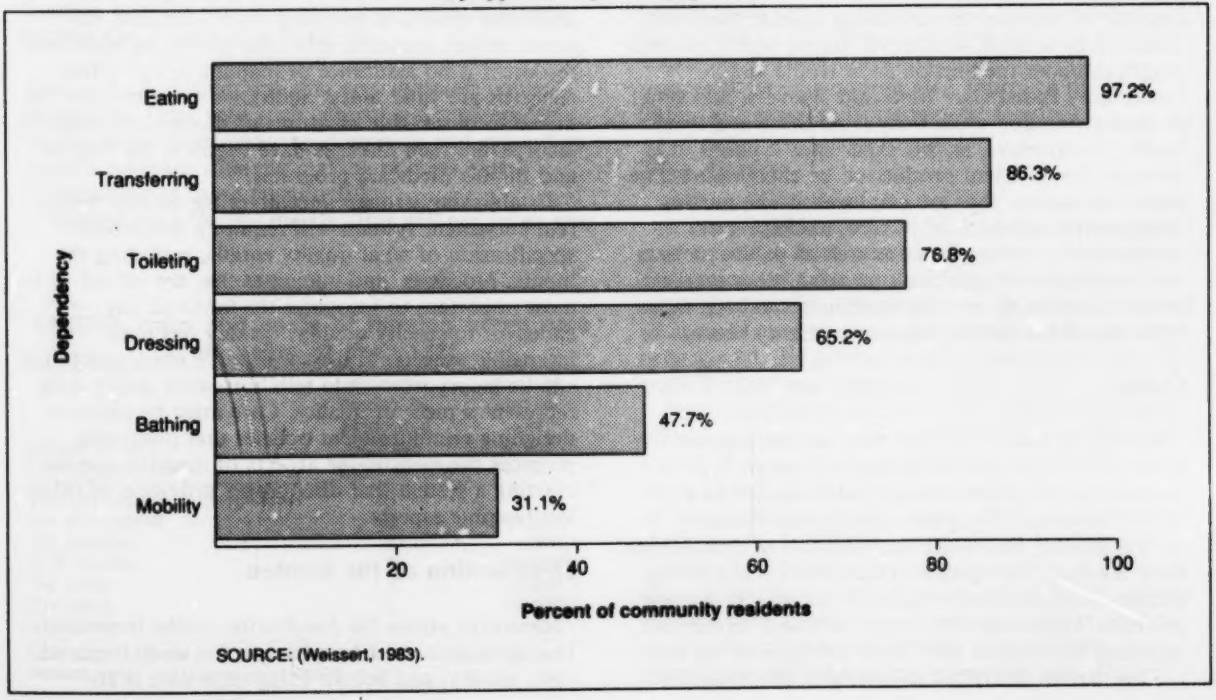
Percent distribution of community residents with ADL or IADL impairments, by source of services: 1982



NOTE: ADL is activities of daily living: IADL is instrumental activities of daily living.
SOURCE: (Liu, Manton, and Liu, 1985).

Figure 6

Percent of aged community residents who receive the help they need most or all of the time, by type of dependency: 1979



SOURCE: (Weissert, 1983).

Even though inputs and quality may not be perfectly correlated, there is likely a significant relationship. Consequently, aspects of quality would suffer from these reductions.

Reducing payments for Medicaid patients also will adversely affect their access to nursing homes. When Medicaid rates are lower, nursing homes can profit by lowering their private charges to attract more private patients and displacing some Medicaid patients. Unfortunately, from a policy perspective, the Medicaid patients who will likely be displaced are not the potentially inappropriate users of nursing homes—light-care patients who might be served elsewhere. Rather, the marginal Medicaid patient to the nursing home is the heavier care patient for whom the nursing home receives no more revenue, but must incur additional costs. To realign the nursing homes' perspective to coincide more closely with the program's requires a modification of reimbursements to match better rates and patient needs. Case-mix reimbursement systems accomplishing such reform have been implemented in several States (Illinois, Maryland, Minnesota, New York, Ohio, and West Virginia), and they are being planned in several others. These systems can improve access for heavier care patients, but, with the fixed supply of beds, such gains come only by reducing access for others. Whether these displaced patients receive adequate care outside nursing homes should be a significant policy concern.

Little can be said about how efficiently individual community and in-home services are produced. Experience with community and in-home services is much more fragmentary than our experience with nursing homes. Public funding of community care has been limited to a series of demonstration projects, coverage of selected services using normal Medicaid authority by a small number of States, highly targeted programs under the Section 2176 Home and Community Based Care Medicaid Waivers, and small programs financed exclusively from State and local funds. Nevertheless, as this experience expands, it is essential that efficient production be encouraged. The same mechanisms that are employed in the nursing home market are applicable here, namely, use providers who serve private as well as public patients and who therefore face pressure from other markets to be efficient and use reimbursement methods that break the direct link between revenues and costs.

Quality

Interest in quality of care must extend beyond avoiding actions that potentially reduce quality. Promoting and guaranteeing quality should be a central concern in long-term care policy because normal market forces are not available to assure it. In most markets, the spectre of competition is a strong incentive to suppliers to maintain acceptable quality products. Otherwise, consumers will seek alternative suppliers resulting in the "good driving out the bad."

This market discipline is lacking in the long-term care marketplace, especially the nursing home market, because of a lack of competition. States' efforts to limit the number of beds to control Medicaid costs provide a protective environment for most nursing homes. Operators can have little or no fear that their occupancy will fall or that a new home will try to enter their market even if the quality of care provided is somewhat deficient.

The market for community and in-home services involves no explicit barriers to providers' entry. However, the conditions are not conducive for strong competition. Consumers find it difficult to obtain information on alternative sources of care. The absence of extensive public subsidies and the limited resources of impaired elderly result in a rather weak demand for purchased care and relatively few highly visible organized providers. Most home care involves one-to-one relationships between consumers and providers. Providers have little to fear from having a poor reputation. The home care market is too fragmented for their reputation to be widely known, and their attachment to home care as an occupation is often quite marginal. With their pay near the minimum wage, they often have alternative jobs available at equal wages.

The absence of market forces to assure service quality means that the task must be accomplished largely through regulatory oversight. Although progress has been made in improving the regulatory process, much remains to be done. Efforts to define better what quality is and to develop methods to detect deficiencies need to be continued. Further, means must be found so that deficiencies can be detected in a timely manner without making the inspection process too intrusive or too costly.

Using reimbursement policies to promote and guarantee quality is receiving more attention. As noted earlier, concerns exist that providing additional resources is no assurance of higher quality. Those concerns are valid unless additional payments can be linked to observable measures of quality. Attempts to incorporate such linkages have begun in the Florida and Illinois Medicaid programs.

Establishing stronger incentives for quality within reimbursement systems will require a much better specification of what quality entails, including the inputs, processes, and outcomes that are valued. It is most important to recognize the limits of any endeavor to specify quality. Quality has many intangible aspects. Those measurable phenomena that can be incorporated into reimbursement policy only represent a piece of quality. Care must be taken in designing reimbursement policies that positively promote the measurable aspects of quality to avoid creating a system that discourages provision of other less tangible aspects.

Distribution of the burden

Concerns about the distribution of the burden of long-term care must be added to the usual issues of cost, quality, and access. Long-term care is an

exceptional catastrophe. It is the only major catastrophe likely to affect individuals that cannot be mitigated by insurance. The only widespread insurance available is Medicaid, which provides insurance after the fact against further catastrophe. Once one is impoverished by long-term care expenses, Medicaid will provide some support for future expenses. There is no recovery of prior losses.

Needing long-term care is the type of event for which one really should want to obtain insurance. Almost 70 percent of the people 65 years of age or over will die having spent less than a month in a nursing home (Table 1). Almost 80 percent will spend less than 3 months in a nursing home. Only 13 percent will have stays totalling more than a year. Although 13 percent may represent a rather large likelihood for a major catastrophe, it still does not make sense to save for it. For 70 to 80 percent of the elderly, saving for a $40,000 nursing home stay will mean foregoing the use of those savings in anticipation of a catastrophe that never occurs.

Private insurance for long-term care is becoming more available. However, the number of policies in effect is still rather small (less than 500,000), and existing policies often provide somewhat limited benefit coverage (Task Force on Long-Term Health Care Policies, 1987). Both insurers' concerns about the risks associated with long-term care policies and consumers' reluctance and inability to purchase them have contributed to this situation. Because these policies are a new product, insurers worry that initial buyers will be more likely to be potential users. Further, the perceived consumer value of many long-term care services, especially home care, raises fears that insurance subsidization will lead to significantly increased use. Insurers have protected themselves by limiting benefits and increasing premiums to protect against the uncertainties involved.

A key to reducing insurers' concerns is the discovery of mechanisms that appropriately control utilization. Only with such control will insurers feel comfortable about reducing premiums and expanding benefit coverage, thereby making policies more affordable and more meaningful.

Developing effective mechanisms will not be an easy task. Success likely depends on securing the cooperation of providers. Pitting utilization reviewers or case managers against the interests and desires of both consumers and providers is not likely to be an effective strategy. Mechanisms that employ financial incentives to create a real stake for providers to control use may be effective and the easiest to implement. Social health maintenance organizations and continuing care retirement communities are obvious examples. However, they may not be the only effective mechanisms; and considerable attention must be given to the incentives for underservice and the limits on freedom of choice such arrangements imply.

Better policies and more information may strengthen the demand for private insurance. The reluctance of the current elderly who can afford one to buy a policy likely stems from both accurate assessments of the limits of many available policies and misconceptions about current Medicare coverage. However, it is critical to recognize that a substantial share of the elderly have limited economic resources and that they are likely to regard even less expensive and more comprehensive policies as beyond their means. Providing catastrophic protection for these persons cannot be accomplished by the private sector alone. Dealing with this significant gap will have to be the government's job.

Leaving the current Medicaid program as government's response would result in essentially a two-class system. Privately insured elderly would be protected from the catastrophe, and persons dependent on Medicaid would remain uninsured until after the catastrophe. The dilemma government faces is that improving its fallback program will undermine the marketing of private insurance. Whether universal or near universal protection against long-term care catastrophes can be achieved with the government and the private sector working independently is uncertain. Either government may have to assume full responsibility or a coordinated approach linking public and private efforts may be required.

Table 1

Lifetime risks and costs of nursing home care at 65 years of age: 1985

Length of stay in nursing home	Percent probability associated with this length of stay	Average lifetime cost at $80 per day
Will not enter a nursing home	56	0
Up to 1 month	13	$1,200
1-3 months	9	4,800
3-12 months	9	18,000
1-2 years	4	43,000
2-5 years	5	102,200
More than 5 years	4	204,400

SOURCE: (Greenberg, J., 1987. Based on data from Cohen, Tell, and Wallack, 1986, and Meiners and Trapnell, 1984.)

The future

A considerable portion of the interest in long-term care emanates from concern about the growing elderly population—the demographic imperative. The imperative is real. The number of persons 65-74 years of age will double by the year 2030, and the number over age 80, the primary users of long-term care, will triple by that year (Spencer, 1984).

Significant social and economic trends potentially affecting long-term care are occurring simultaneously. Family size has dropped. Many more women are participating in the labor force, and their likelihood of interrupting careers for nonlabor force activities is much lower. As families, particularly spouses and daughters, have been the primary source of informal care, these changes affect the potential future volume of such care. Somewhat offsetting, however, is the growth of the generally healthy young-elderly population, persons under 70 years of age. The

greater wealth of a significant share of the future elderly, both income and assets, may affect the amount of formal care they choose to purchase out of pocket.

The various demographic, social, and economic trends are likely to have conflicting impacts on the demand for and provision of different long-term care services. Some will promote and some will discourage the availability and the purchase of care.

The prevalence and patterns of long-term care needs may shift in the future. Future cohorts will have experienced a lifetime of very different and, presumably, better medical care; and they will have lived different life styles than today's elderly. These factors are expected to influence future mortality rates. It is reasonable to ask: Will morbidity not be affected as well? Prevalence rates could also shift dramatically if future changes in medical care lead to better management of some chronic conditions, such as dementia, osteoporosis, arthritis, or incontinence, which are major contributors to long-term care needs.

Perhaps one of the most critical elements that will shape the future long-term care system will be the choices made regarding the socially acceptable or desired level of service and access. Neither past nor present experience may be the appropriate norm. Will current nursing home utilization levels be acceptable or will it be desirable to continue the reductions in use observed since 1977? Or, given the shortage of care discussed above, will the reversal of that trend to create more access be the goal? The choice that is made strongly affects what is projected for the future. Projections of new nursing home beds needed by the year 2000 based on the 1985 use levels are 20 percent, or 150,000 beds, lower than if the 1977 use levels are to be restored.

Even larger differences would arise if the target for the future is closer to one of the extremes of the current distribution instead of near the average. Will access concerns and less availability of informal care increase the target so that it is close to the current level of use in Minnesota (165 percent of the national average) (Harrington, 1987)? Or will concerns about costs make the target closer to current use in South Carolina (67 percent of the average)? Regardless of the national target, will the considerable variation that exists among States be tolerated?

Experience with formal home care is too limited to speculate about an acceptable target. It is clear that the future will likely involve a major expansion of community and in-home services. Part of this expansion will be a response to the factors affecting the availability of informal care. More important, however, will be the response to the growing recognition that these services have been significantly underprovided and that, in protecting individuals against catastrophe, the potentially excessive burden of informal care needs to be recognized.

Despite the uncertainties, it is obvious that the level of need will be much larger in the future. The appropriate time to seek strategies for meeting these needs is now. Early planning provides more flexibility by increasing the number of feasible methods of confronting the problem. In particular, it affords the opportunity for prefunding, on either an individual or social basis, higher levels of service use than would be deemed affordable if the full bill had to be paid concurrently.

Future strategies must be robust enough to deal with the potentially large variation in levels of need and demand. They must also give particular emphasis to the question of equity regarding the distribution of the burden of long-term care. Policy concerns, to date, have largely focused on efficiency and, to a great extent, that objective may have been achieved. Current dissatisfactions relate to the large price even somewhat efficient delivery of long-term care has entailed and to the fact that, unfortunately, the care delivered has not fully addressed the needs of the long-term care population or its caregivers.

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A descriptive framework for new hospital roles in geriatric care

by John A. Capitman, Jeffrey Prottas, Margaret MacAdam, Walter Leutz, Don Westwater, and Donna L. Yee

Changes in demographics and in the operating environments of acute care hospitals have resulted in the development of new geriatric service products. Presented in this article is a framework for describing the variety of new services in terms of sponsor goals and core activities. Five broad types of geriatric service developments are described: geriatric medical care, post-acute care, transition management, chronic care, and information services. Assessing the implications of new services for the organizational functioning of hospitals is discussed, followed by an examination of the potential contributions of new geriatric services to the quality and accessibility of geriatric care.

Introduction

Acute care hospitals have become increasingly concerned with the provision of geriatric medical, post-acute, and long-term care. This concern responds to numerous environmental factors that include changes in consumer markets and treatment technologies, as well as health care financing and organization. The consumer market for hospital services is changing, in part, from the growth of the aged population and from related changes in patterns of morbidity and medical treatment. The aged and, in particular, those over 75 years of age will continue to be a growing share of the population (Soldo and Manton, 1985) and the consumer market for medical care (Rice and Feldman, 1983; Manton and Soldo, 1985), at least until well into the next century. The demand for long-term care service can be expected to grow even more rapidly than implied in the Nation's demographic changes. Better health practices and improved medical technologies may lead to decreased mortality. But increased periods of disability and the resulting increased need for long-term care are also anticipated (Gruenberg, 1977; Riley and Bond, 1983; Verbrugge, 1984).

Hospital interest in products and services geared to the aged also reflects changes in the financing and organization of medical care. Under the prospective payment system (PPS), it is in the financial interest of the provider to discharge patients at the earliest medically acceptable time after admission. Evidence suggests that, nationwide, hospitals have shortened average lengths of stay for most types of cases (Sloan, Morrisey, and Valvona, 1988), though questions remain about the implications of quicker discharges for the status and service needs of patients entering post-acute settings.

Acute care providers have also been affected by other environmental changes that may influence care patterns for all age groups and by a range of business decisions. Most notable among these changes has been the growth of managed-care systems such as health maintenance organizations. Hospital ownership patterns have changed as well, with closure of small and publicly owned hospitals and with market penetration by investor-owned and not-for-profit chains (Starr, 1982). At the same time, consumers, as well as both public and private third-party payers, have become more active in seeking organizational and financing reforms geared towards increased efficiency, continuity, and responsiveness from health care providers.

One way that hospitals have sought to meet the current challenges of a changing environment and to prepare for the coming challenges of changing patient populations has been the development of new service activities oriented towards elders and other long-term care users. In a 1985 survey of their members, the American Hospital Association found that 24 percent of hospitals owned skilled nursing facilities, 12 percent owned intermediate care facilities, 33 percent provided home health services, 14 percent provided homemaker services, and 2 percent had specialty geriatric inpatient units (Read and O'Brien, 1986). This same survey indicated that 85 percent of hospitals were considering development of new long-term care beds, and 66 percent were considering development of new outpatient services for elders.

There have been few efforts to systematically examine the implications of geriatric service development for the financial viability and organizational functioning of sponsoring hospitals. From the broader perspective of health care policy, there has been little analysis of how new hospital roles may impact on the accessibility and quality of post-acute and long-term care. Such organizational and policy assessments have been hampered by the absence of a conceptual framework for characterizing geriatric service developments.

In this article, we present a framework for describing emergent hospital roles in geriatric care; and we discuss related organizational and policy assessment issues. The discussion is drawn from an assessment of the Robert Wood Johnson Foundation's program for Hospital Initiatives in Long-Term Care (HILTC) and other projects. We propose that geriatric service developments can be described in relation to three dimensions: goals, service approaches, and organizational strategies. Three primary goals for expansion of post-acute and long-term care services are outlined: increased market share, better use of hospital resources, and new

Reprint requests: John A. Capitman, Ph.D., Director of Long-Term Care, Bigel Institute for Health Policy, Heller Graduate School, Brandeis University, Waltham, Massachusetts 02254-9110.

product lines. To achieve these goals, hospitals may develop different service approaches including specialty geriatric medicine, post-acute medical care, transition management, chronic care, and geriatric information. Because of the variations in the personnel and other resources used and consumer markets targeted for new geriatric services, they also appear as components of more general organizational strategies such as vertical integration and diversification.

We also present an application of this framework to the description of the HILTC projects, and we discuss the relative success of different services approaches and organizational strategies. Even though the HILTC experience does not provide definitive answers to sponsor goal-attainment questions, it does provide some insight into the factors that need to be considered in provider assessments of the new services. Similarly, the HILTC projects are useful in clarifying the range of issues and concerns that need to be addressed in policy analyses of hospital vertical integration and diversification efforts.

Hospital long-term care initiatives

In 1984, the Robert Wood Johnson Foundation awarded 4-year grants to 24 general acute care hospitals to develop systems, services, and educational efforts geared towards encouraging innovation in the role of acute care hospitals in serving long-term care patients. The HILTC program participants developed a broad array of extended care efforts, the diversity of which reflected the range of sponsor and community characteristics included in the demonstration. For example, although 10 of the participants were very large facilities with over 500 staffed beds, 5 had fewer than 250 staffed beds. Similarly, 11 participants served the core of major cities, 7 were in suburban areas, and 6 served rural or primarily rural areas. These hospitals also varied on other measures such as medical school affiliation; ownership type; occupancy rates; and the proportion of discharges covered by Medicare, Medicaid, or other sources.

In 1986, the Foundation awarded a grant to the Bigel Institute for Health Policy at Brandeis University to examine the programs developed under HILTC. Because of the diversity of the sponsoring hospitals and their new programs, the study was not intended as a quantitative comparative assessment of the cost effectiveness or clinical efficacy of the projects. Rather, the evaluation goals included developing a common language for describing these diverse efforts and identifying practical lessons about their implementation that might aid other hospitals. There were two major components to the study. First, data were gathered from all 24 participants by using questionnaires and telephone interviews. Second, detailed case studies were conducted at 19 facilities using inpatient interviews and other techniques to focus on the implementation of geriatric care initiatives. In both components, the hospital, as opposed to the Foundation-sponsored effort, was the unit of analysis; and attention thus focused on a broad range of new approaches to the aged market. Description of the HILTC experience was also informed by two other Bigel Institute projects. In planning for a demonstration of the Life Care at Home project, detailed information was collected from 14 hospitals with extensive involvements in post-acute and long-term care (Tell and Capitman, 1987). At the same time, data were collected on rural hospitals to explore the range of organizational responses to unused inpatient capacity, including participation in the swing-bed program.

Descriptive framework

A three-dimensional approach to characterizing geriatric service developments is useful for conceptualizing the new programs because they were initiated by different mixes of participants from administrative, academic, and clinical units within the facilities. These services were labeled in conflicting ways, and they were viewed from diverse perspectives such as problem solving, exploiting new opportunities, and implementation of strategic plans. The rationales and significance of these services were viewed differently by individuals, even within the same hospital. A common language for program comparison and assessment is needed to bridge these perspectives. Our approach characterizes new services and systems relative to the goals for their implementation, the primary activities and resources required for their implementation, and how they relate to more general organizational strategies. The framework is summarized in Table 1, and each component is described below.

Table 1

Descriptive framework for hospital development of geriatric services

Goals	Service approaches	Organizational strategies
Market share	Geriatric medicine	Vertical integration
Efficient resource use	Post-acute care	Diversification
New product lines	Transition management	
	Chronic care	
	Geriatric information	

Geriatric service development goals

Three major goals for new geriatric services have been cited by the HILTC hospitals and others. Most new programs are justified on multiple grounds, but the initiators of geriatric care programs generally identified one as primary.

Market share

Hospitals are aware of the Nation's changing demographics and patterns of morbidity; and they are

therefore interested in expanding their roles in the provision of services to the elderly. Concerns with expanded roles in this market may reflect efforts to gain an edge over other providers in a competitive community. But even when other area hospitals are not seeking expanded roles in the aged market, gaining recognition as the preferred provider of care to elders is viewed as desirable from the perspective of winning the loyalty of clients and physicians. Market share concerns may be reflected in the organizational location or design features of geriatric services.

Increased efficiency

Hospitals are increasingly concerned with how efficiently they use available resources. For many, reduced length of stay for Medicare-covered clients has been sought in the wake of PPS. Some hospitals noted that certain types of patients, particularly those requiring complex patterns of post-acute services, were likely to generate losses under PPS. Others, most often suburban and rural community hospitals, cited unused capacity; and they saw the development of swing-beds or related programs as an alternative to downsizing in response to the problem of staffed but vacant beds. Still others cited concerns with the integration of the hospital with post-acute and long-term care providers or with disorganized networks of specialty outpatient services as major sources of inefficiency in the use of hospital resources. In some cases, the development of new services was viewed as gaining experience relative to consolidated delivery systems. Many shared the belief that public policies would increasingly favor such systems. In each of these cases, concerns with increasing the overall financial viability of the hospital combined with patient-care concerns resulted in a search for measures to assure hospital clientele easy access to post-acute and long-term care services.

New product lines

Hospital missions include responding to unmet needs in their communities through new service offerings. Development of new lines of business may be viewed as beneficial for the overall position of the hospital. Hospital executives were, at times, convinced that new product lines and organizational entities under the hospital's corporate umbrella would improve the financial or humanitarian status of the hospital. For example, development of new geriatric services was viewed as a means to access new revenue streams in response to anticipated restrictions in acute care spending. HILTC projects sponsored by medical school-based providers were also motivated by the desire to initiate or expand opportunities for training of interns, residents, and fellows in geriatrics. In these cases, geriatric service development was not pursued because of specific problems with current practice in acute care delivery or coordination with other providers. Hospitals that cited these goals were more concerned with the viability of the new product than with its potential impacts on other aspects of the hospital's functioning.

Service approaches

At least five broadly defined groups of geriatric services were undertaken: specialty geriatric medicine services, post-acute care medical services, transition management, chronic care services, and geriatric information services. HILTC participants and other hospitals often pursued several of these approaches at the same time. For example, more than one-half of the HILTC projects included elements drawn from three or more of the five groups. The primary features and examples of specific services within each group are discussed below.

Specialty geriatric medicine

One approach to geriatric service development found at 16 of the 24 HILTC participants is the creation of medical care services that are geared, in particular, to the aged and other long-term care users. For example, hospitals may develop specialized inpatient units for geriatric care. These units reallocate existing personnel and resources to the special needs of frail elderly patients. In some cases, these units take on some of the features of the geriatric evaluation units developed within the Veterans Administration Medical Center system, but other third-party payers have been reluctant to reimburse this model of care.

In some large hospitals, and particularly among providers affiliated with medical schools, geriatric consultation teams have been developed. In these programs, a physician-led team that may also include geriatric nurses and other health professionals is available upon the referral of an inpatient's attending physician to review medical and nursing needs. The team may make recommendations for altering treatment regimens or for post-acute care.

Some hospitals are developing geriatric outpatient programs that coordinate medical and related services on an ongoing basis. These programs focus on providing outpatient care in a setting tailored to the particular needs of the elderly. A broad variety of medical and allied health professional specialties are assembled, and comprehensive medical assessment and treatment plans are developed for patients. In some cases, these clinics may offer transition management services, as discussed later, for clinic patients.

Post-acute medical care services

Probably the most popular group of geriatric services developed, pursued by 20 of the 24 HILTC participants, has been post-acute medical services. These programs offer extended medical, nursing, or rehabilitative services to individuals who no longer require the intensity of care provided in an acute care unit. For example, hospitals have developed, purchased, or gained management of freestanding

skilled nursing facilities (SNF's), or developed hospital-based swing-bed or distinct-part SNF's.

Transitional care units, sometimes referred to as "stepdown" or "super-SNF" units, are another example of this approach. These services focus on patients whose medical needs or rehabilitative service requirements exceed the capacities of a traditional SNF but who are nonetheless sufficiently medically stable to be discharged from the acute care setting. Clinical practice in transitional care units often combines some elements of acute care provision with the special skills required for chronic and rehabilitative service delivery.

The development or purchase of a Medicare-certified home health agency represents a third example of this approach. Hospital providers of post-acute skilled home health care often note the differences between their services and client populations and those associated with community-based home health agencies. In general, hospital-based home health care has focused more attention on patients requiring technologically complex home care such as respirator-dependent cases. When hospital-sponsored home care is, in fact, high technology care aimed at exceptionally ill patients, it can be seen as an extension of the hospital's services outside its physical confines. In contrast, to the extent that hospital-based home health agencies differ little from existing community-based providers, they are really attempts at penetration into an allied but distinct industry and are better classified as examples of the chronic care strategy described later.

Transition management

Four of the 24 HILTC participants developed programs that enhanced the discharge planning function of the hospital. These programs were designed to increase the efficiency and responsiveness of hospital services that assist patients in managing the transition from acute to post-acute or long-term care. Transition management programs, however, can represent a radical change in the discharge planning functions and the relationships between the hospital and community agencies. Components of transition management programs include comprehensive assessment of the functional capacities and social supports of patients on admission; identification of patients requiring post-acute or long-term care services as soon as possible during the stay; development of post-acute plans, including a broad array of formal and informal providers; and monitoring of care, either until the patient is stable or established with a community care management agency. These programs are often difficult to implement because they entail not only developing systematic arrangements with community providers but changing standard practices in several inpatient departments. Discharge planning is the most affected, but a serious attempt at transition management also has implications for clinical-care practices on the wards as well.

Chronic-care services

Hospitals may develop geriatric services that represent a departure from current roles in the care of the chronically physically and mentally disabled by offering chronic care services. Developed at one-half of the HILTC sites, these services include not only intermediate care, personal care, and supportive residential facilities but an array of outpatient long-term care services such as adult day care, homemaker or chore, and community care management programs. All of the services in this category require the development of new staff skills and resources. Residential programs most often involve significant new capital investments. Unlike other geriatric service developments, however, developing these programs may occur with only tangential linkage to other hospital activities. Among the HILTC participants, for example, most referrals to these new services came from outside of the hospital, and program participants often were clients of competing acute care providers.

HILTC hospitals included case management among the chronic-care services they offered. Case management, as a chronic-care service approach, must be clearly distinguished from care management as part of a geriatric medical care approach on the one hand and from transition management on the other. Medical care management programs focus on the coordination of services provided by physicians and allied health professionals for clients with ongoing need for such assistance. Transition management programs address a broader array of professional, paraprofessional, and informal care providers; but the service is time limited and targeted to inpatients requiring post-acute care. In contrast, case management, like the models explored in the National Long-Term Care Channeling Demonstration and related studies (Kemper, Applebaum, and Harrigan, 1987), coordinates a broad and complex array of caregivers; but it is open-ended with respect to length of stay and targeted primarily to patients whose service needs outlast traditional post-acute third-party payer benefits. At least three HILTC hospitals became providers of long-term case management services to low-income elders whose needs were comparable to those of nursing home users under the auspices of Medicaid 2176 home- and community-based waiver programs. The remaining HILTC case management programs were targeted to those whose needs were less severe than those of nursing home eligibles and those with greater financial resources (Capitman et al., 1986; Capitman, MacAdam, and Yee, forthcoming).

Geriatric information programs

Informational programs include public lecture series on aging health issues, training and counseling programs for patients and caregivers, and membership programs. Access to both lecture series and patient and caregiver programs are sometimes offered as

benefits of joining a hospital's membership program. Other membership programs offered benefits such as newsletters, assistance with billing and third-party payments, and waiver of some portion of Medicare copayments or deductions. This approach requires the smallest investment of hospital resources of all those mentioned.

Organizational strategy

One way of understanding the nature of alternative goals and service approaches being pursued by hospitals that develop new extended care programs is to categorize them in terms of a more general organizational strategy. Clement (1988) suggests that hospital development of new services can be conceptualized in much the same way as the initiation of new services or product lines by any large organization. In particular, the implicit strategy in the development of a new service depends on its linkage to the core activities of the hospital—the production of medical and allied health professional diagnostic and treatment services to inpatients with relatively short-term though intensive needs defined by emergent illness. Two broad strategies may be identified: vertical integration and diversification.

Vertical integration

Traditionally, hospital vertical integration has been viewed from the perspective of stages of production—owning or managing more than one link in a linear chain from insurance coverage to ambulatory care, secondary inpatient care, and tertiary care in a nursing home. However, this conception of vertical integration ignores the fact that similar allied health and paraprofessional services may be delivered outside this sequential chain or to consumers seeking services for different reasons. Clement (1988) points out that a more helpful definition focuses on the extent that new activities involve the same or similar physical and staffing resources, management approaches, consumer groups, functions for consumers, and sources of payments. From this perspective, hospitals seeking vertical integration attempt to control, through ownership or management, all production and distribution processes directly related to their core activities. Manufacturing components (supplies, machines, drugs), management of ancillary services (radiology, laboratory, dietary), education of medical and allied professional staff, and offering insurance plans are all examples of activities directly linked to the production of inpatient treatment of emergent illness. To the extent that development of new activities in these areas requires similar staffing and management approaches, they may be viewed as examples of vertical integration.

Diversification

By contrast, hospitals seeking diversification develop services and products peripherally related to their core activities. As such, the new products require new types of management expertise, personnel and physical resources, consumer groups, functions for consumers, and payment sources. A new activity may represent a more related diversification, depending on how much it requires new production technology, new types of consumers, or new functions of the product for the consumer. Development of burn centers, birthing centers, sports medicine or wellness programs, and cardiac care units are all new activities for a hospital that do not, in general, represent diversification because the elements of production and their relationships remain similar to the core activities. By contrast, development of housing or health clubs by hospitals represent unrelated diversification because they require new technologies, personnel, and a potentially broader group of consumers seeking services for reasons other than those used when seeking the services of a hospital. More related diversifications (such as those associated with some geriatric services or with selling hospital laundry, dietary, management, or data processing services to other businesses) may use related technologies and resources or serve related functions for consumer groups.

Applying the framework

In this section, we apply the framework based on our interpretations of the case studies and the survey of HILTC participants. Each type of activity developed by the hospitals is classified in terms of the service approaches. Each major example of the service approaches is then classified in terms of an organizational approach based on the personnel resources required, the production technology, consumer types, functions for consumers, and payment sources. When most respondents at hospitals adopting each service approach noted major changes in any of these factors, then the service approach was classified as having diversification as the implicit organizational strategy. When major changes in these components of production were not noted by the majority of hospitals that developed a service type, it was classified as having vertical integration as the implicit organizational strategy. Finally, based on the most frequently cited reasons for developing a service or continuing it after the grant period, each example of the service approaches was classified in terms of a goal. The findings that are discussed in the next sections are summarized in Table 2.

Geriatric medical-care approach

New geriatric medicine services usually used existing personnel and resources in the hospital, and they were targeted to elders who already sought acute medical and ambulatory medicine services from the sponsor. These services attempted to tailor existing product lines to the special needs of elders or to other patients with chronic medical problems. Inpatient geriatric specialty units and geriatric consulting teams were not

Table 2

Categorization of hospital geriatric services

Service approach	Implicit organizational strategy	Primary goal
Geriatric medicine		
Inpatient unit	Vertical integration	New product line
Consult team	Vertical integration	New product line
Outpatient unit	Vertical integration	Market share
Post-acute care		
Transition unit	Vertical integration	Resource efficiency
SNF swing beds	Vertical integration	Resource efficiency
High technology home health agency	Vertical integration	Resource efficiency
Other home health	Diversification	New product line
Transition management	Vertical integration	Resource efficiency
Chronic care		
ICF personal care unit	Diversification	New product line
Adult day care	Diversification	New product line
Personal care or homemaker	Diversification	New product line
Case management	Diversification	Market share
2176 case management	Diversification	New product line
Geriatric information		
Lecture series	Diversification	Market share
Membership program	Vertical integration	Market share

NOTES: SNF is skilled nursing facility. ICF is intermediate care facility.

expected to affect the market role concern or to result in less intensive or shorter acute care stays. They were intended as new products that accessed existing payer streams or new opportunities for medical training. Outpatient geriatric specialty units, by contrast, were often developed or maintained because they brought new outpatients and prospective inpatients to the hospital who might otherwise have used other facilities. In addition, some of these units were self-sustaining because of third-party reimbursement.

Post-acute and transition approaches

With the exception of home-health agencies that did not target patients requiring especially intensive or high technology services, the post-acute care and transition-management programs continued the treatment of current patients through treatment stages following sequentially from care in the inpatient units. These services did not require the development of relationships with new third-party payers or marketing to new consumer groups and referral sources. The primary goal for developing post-acute services seems to be resource efficiency. Even when these services were not financially self-sustaining because of absent or inadequate third-party reimbursement, they were retained by hospitals because of the resulting ability to more readily transfer acute care patients to a lower level of care or to receive some reimbursement on unused acute care capacity.

Development of home health agencies without a special focus on high technology cases appeared to be motivated by somewhat different factors and involved a different organizational strategy. Hospitals that developed these home health agencies tended to serve patients from other referral sources as well as from their own acute care wards, and they needed to learn community care techniques that required new paraprofessional personnel and their management. Because of the broadened referral network, these home health agencies were more like the chronic-care services because they provided care that was not always sequentially linked to acute inpatient stays. The decision to diversify service provision in this way also tended to be based on whether or not reimbursement was adequate to cover costs for the new service, rather than on its impacts on the core activities of the sponsor.

Chronic-care approaches

New chronic-care services required reaching out to patients seeking maintenance, as opposed to rehabilitative or treatment-oriented care. These services required development of linkages with new sources of referral, competition for social service funding, and use of service production technologies and resources that were formerly unfamiliar to hospitals. In most cases, the decision to develop these services or maintain them after grant funding terminated was based on meeting an observed community need or offering access to a new source of revenue, such as Medicaid 2176 reimbursement or Social Service Block Grant funding. The long-term case management programs not linked to 2176 Medicaid home- and community-based care systems were an exception. These services were not expected to facilitate transitions to the community because they usually targeted community residents rather than inpatients being discharged. Third-party and private

out-of-pocket reimbursement was often not available, and case management programs needed to compete with community providers. The value of these services was most often judged on the extent to which they introduced new patients to the hospital or improved its market position or image as a geriatric care providers.

Geriatric information approaches

Although offering a geriatric lecture series did not require new personnel or other resources, elders did not seek these services in response to acute or chronic medical needs but rather for education or entertainment. By contrast, membership programs involved the hospital in patients' decisions about insurance for medical care and choice of acute care and ambulatory care providers. These programs were designed to increase the market share of the hospital by familiarizing prospective patients with the facility and increasing the likelihood of choosing to use its services or those of affiliated physicians. Lecture series and membership programs were most often free and, therefore, could not bring new revenue to the hospital. Providers who developed these services often believed they were also meeting a community need.

Organizational evaluation issues

The foregoing framework suggests considerations for hospitals seeking to evaluate the organizational impacts of developing new geriatric services. Although, with few exceptions, the HILTC participants and other hospitals have not systematically examined the success of different approaches in attaining these goals, the experiences of the projects indicate some of the factors that need to be considered in each case. From this perspective, assessment focuses on the potential to improve the organizational functioning and financial viability of the hospital through efforts designed to improve geriatric market share, increase efficiency in use of resources, and to develop new product lines.

Improved market share

Several of the service development approaches seemed primarily intended to increase the sponsor's share of the geriatric market. Several participating hospitals conducted market surveys and analyses of referrals by new programs to existing services to assess market share impacts of specialty geriatric outpatient clinics, case management services, and geriatric information programs. Results suggested that these services could bring new patients to the core services or increase community awareness of the hospital's dedication to serving the elderly. However, development of outpatient clinic and case management services may be costly, particularly when out-of-pocket or third-party reimbursement is inadequate or unavailable. As a result, assessment efforts have to focus on the overall financial impact of the program as well as on whether or not it attracts new users. Case management programs and offsite geriatric outpatient clinics (such as clinics located at community housing or senior center sites) involved relatively small patient groups; thus, the major issues in their assessment focus on image impacts and the utilization patterns of clinic users. For larger outpatient clinic programs and geriatric information services, the evaluative focus needs to be directed to hospital utilization by program participants. To the extent that these services bring new Medicare clients to the hospital, sponsors need to consider the patient groups attracted to the hospital, how they will use services, and how this care will be reimbursed. It is possible that the overall financial viability of the hospital can be decreased rather than improved if these programs attract new patients in PPS diagnostic categories on which the facility is likely to lose money.

Efficient use of resources

Some strategies for geriatric service development are intended to improve the efficiency with which hospital resources are used. Examining post-acute services and transition management requires careful study of their impacts on the utilization of core services and the resources used in their production. As with market share oriented services, if reimbursement for post-acute or transition management services is inadequate or unavailable, any savings attributed to the new programs must be compared with implementation costs. HILTC participants and others who developed post-acute and transition management programs could provide anecdotal evidence that discharge of complex patients from acute wards was facilitated. Only one HILTC site, however, conducted a clinical trial to assess impacts of transition management on acute care length of stay, but the results were inconclusive because of small highly heterogeneous samples. Overall, the small size of these programs made it difficult to assess them through time-series analyses of aggregate utilization trends. Because of these difficulties in gathering utilization data to demonstrate more efficient use of the core services, a focus on organizational change is, perhaps, more realistic for assessing program outcomes. In this context, evaluation focuses on the success of the post-acute and transition management programs in attracting appropriate referrals from other units in the hospital and in developing linkages to other community providers to facilitate more timely discharges.

New product lines

Geriatric services may be developed as new lines of business, to meet observed community needs, or to enhance training programs. HILTC hospitals were able, in most cases, to access Medicare reimbursement for specialty inpatient units and Medicaid reimbursement for ICF care. Medicaid 2176 waiver

reimbursement or social service funding was accessed for other chronic-care services. Evaluation should focus, in these cases, on the ability of the hospital to negotiate favorable rates for these services. Alternatively, hospitals that consider offering home health services and chronic-care services, in competition with existing community providers or because of their absence, should focus evaluation efforts on the adequacy of new revenue to cover the costs of these services. With adequate rate negotiation and good fiscal management, these services can be self-supporting or profit-generating affiliates for an acute care hospital. The major challenge with these services revolves around managing their similarities and differences with core activities. For example, in swing-bed programs and distinct-part SNF providers, a common complaint by nursing staff is how difficult it is to vary clinical practice when the patient stays in the same bed or is transferred within the facility. Hospitals must be clear as to what extent geriatric service development will require new staff or new skills for current staff.

Third-party payment is rarely available for chronic-care services, and the hospital must fund the services for other reasons (e.g., as a loss leader). Some hospitals have explored the private-pay markets for these services with relatively little success. In many States, however, hospitals can become providers of Medicaid 2176 care-management and community services. It may still be difficult to show that these services improve the overall financial status of the hospital because of both small scale and low reimbursement rates. At times, hospitals are competing for these roles against community organizations with less costly overhead, staffing, and salary structures. Medicaid agencies may be unwilling to pay higher reimbursements, and so providers are faced with the choice of continuing to offer the services at a loss for other reasons or terminating them.

Implications for quality and accessibility

There have been few attempts to assess the impacts of geriatric service developments in acute care hospitals on the quality and accessibility of care. To some extent this reflects the potentially conflicting goals and diversity of strategies in this area. Programs geared towards market share improvements, for example, may focus on increasing prospective patients' and physicians' awareness of the sponsoring hospital's position as a provider of geriatric care. But the impacts of such activities on patient access to an appropriate range of high-quality and affordable services are determined by the sponsor's geriatric services and linkages to community providers. Similarly, programs aimed at increased efficiency in the use of hospital resources through control of post-acute services focus on reducing the length and complexity of inpatient stays. But a successful post-acute program without transition management services or other strong linkages to the acute care wards may not affect the quality of inpatient care or on the accessibility of post-acute care. Experiences of the hospitals being studied, nonetheless, suggest some of the ways that vertical integration and diversification strategies can impact on care quality.

Vertical integration

Some of the geriatric medical enhancements, post-acute services, and transition management approaches that appear most consistent with Clement's concept of vertical integration also seem to hold the greatest promise for positive impacts on quality of care and accessibility. Outpatient geriatric specialty clinics can allow patients to access a full complement of appropriate services during one visit. When the clinic is linked through an information system or the primary care physician to patient treatment during an inpatient stay, it may be possible to improve both the responsiveness and the efficiency with which care is provided inhouse and during recovery. Similarly, transition management programs and stepdown or rehabilitative units can assure that patients are not lost to the caregiving system during such critical times. It would appear in each of these instances that access and quality improvements are dependent on improving information exchange and removing barriers to collaboration between hospital and nonhospital care providers.

Diversification

Hospitals establishing new and essentially unrelated product lines such as provision and management of long-term social services may improve the delivery systems in their communities. New services may fill critical gaps and thus improve patient access to high-quality care. But acute care providers have yet to demonstrate that they are uniquely positioned to offer these services. Hospitals may find it difficult to compete with existing community providers on either price or quality: More intensive staffing and more highly trained professionals add to the cost, but they may not improve the responsiveness or appropriateness of community-based, chronic-care services. Hospital-based provision of chronic-care services may offer patients' and physicians' clear advantages when transition management and other integrative services are used to create stronger links between components of the delivery system and, thereby, increase the continuity of care. Further, for individuals with particularly medically complex problems, more direct organizational relations between acute and long-term care providers may increase the responsiveness of care.

Summary

The preliminary and incomplete data currently available on emerging hospital roles in post-acute and

geriatric care make it difficult to assess the potential contributions of these developments for providers or consumers. It appears that it is easier for hospitals to offer new services designed to increase the vertical integration of the acute care delivery system than it is to diversify into chronic care and social services. New proposals for greater hospital control over post-acute care, for example, create strong incentives for integrative approaches. As hospitals develop the clinical and organizational management skills to support these new services, they hold the potential for increasing the continuity and medical responsiveness of care.

Diversification appears to hold less certain advantages: There is still no evidence to suggest that hospitals are uniquely positioned to expand their product lines. However, preliminary data suggest that, just as for vertical integration efforts, the success of diversification efforts will depend on the development of systems for sharing information and maximizing the continuity of care as patients move between inpatient and clinic medicine settings and the new community-based and long-term care services.

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Trends in Medicare use of post-hospital care

by Marian Gornick and Margaret Jean Hall

The introduction of Medicare's hospital prospective payment system has raised concerns about availability of and access to needed health care services after beneficiaries are discharged from the hospital. In this article, Medicare coverage of skilled nursing facility, home health agency, and inpatient hospital rehabilitation services is discussed and recent trends in the use of these services are explored. In addition, an overview is provided of two major studies currently sponsored by the Federal Government to examine availability and other issues related to post-hospital care.

Introduction

This article contains a discussion of skilled nursing facility (SNF), home health agency (HHA), and inpatient hospital rehabilitation benefits under Medicare. The primary focus is on coverage and use of these benefits after discharge from an acute care hospital stay.

The introduction in October 1983 of the hospital prospective payment system, or PPS (Public Law 98-21), was one of the most fundamental changes in Medicare reimbursement policy. The implementation of PPS, using diagnosis-related groups (DRG's) to pay hospitals on a predetermined rate per case rather than by costs, was followed by a drop in average length of stay, although the trend in length of stay had been downward for several years.

Unexpectedly, the hospital admission rate also declined with the introduction of the DRG system. It is likely that the trend toward the increased provision of health care on an outpatient basis, including care delivered in physicians' offices and independent centers for surgery and emergency services, as well as more stringent utilization and quality-control review programs contributed to the decrease in hospital admissions.

The continuing decline in average length of stay turned attention toward assuring that the DRG system would not have a detrimental impact on quality of care or on the health status of the Medicare population. The Health Care Financing Administration (HCFA) initiated a broad program of intramural studies as well as support for extramural grants and contracts in order to analyze the trends in access to and quality of hospital care (Health Care Financing Administration, 1988). According to study results to date, the DRG payment system has not had a detrimental impact on the quality of care received by beneficiaries in the hospital (Guterman et al., 1988; Health Care Financing Administration, 1987a).

A number of other major studies were initiated to determine patterns of use as well as availability of needed post-hospital (alternatively called "aftercare") services (Health Care Financing Administration, 1988). The practice of discharging hospital patients "quicker" is a trend that is evident particularly for the Medicare population; in the general population under age 65, the decline in length of stay was much less (Guterman et al., 1988). Although shorter hospital stays are seen as beneficial for lessening the risk of nosocomial infections and hastening recovery—even if some patients are "sicker" at time of discharge—assuring that there is access to appropriate aftercare services is vital to maintaining quality of care for Medicare beneficiaries.

Coverage and utilization patterns of SNF, HHA, and inpatient hospital rehabilitation (IHR) services under Medicare's Part A program have not been as frequently reported on as acute care hospital services have been. Although Medicare is often referred to as an acute care program, the legislative intent of SNF and HHA coverage apparently has not been generally well understood. Surveys of the aged indicate that a high proportion think that Medicare covers nursing home care (McCall, Rice, and Sangl, 1986). Additionally, the volume of complaints, up to this time, about denial of coverage seems to underscore the difficulty of understanding and interpreting Medicare coverage of SNF and HHA services.

This article contains a description of Medicare's coverage of SNF, HHA, and IHR services. A brief description of the supply of these services is also provided. The article's next focus is on identifying the kinds of hospitalized patients who subsequently use these benefits and the recent trends in post-hospital care. No attempt is made to evaluate the impact of PPS. Such an analysis can be found in Guterman et al. (1988).

The Medicare Catastrophic Coverage Act of 1988 (Public Law 100-360), which amended the Social Security Act, includes substantive changes to the SNF and HHA benefits under Medicare. The data presented in this article pertain to the experience under Medicare before the 1988 Amendments to the Social Security Act became law. The discussion on coverage and cost sharing reflects the provisions of the law that were in effect through December 31, 1988. In the final section of this article, we review the major legislative changes relevant to SNF and HHA services that will be brought about by this legislation.

Reprint requests: Marian Gornick, Office of Research and Demonstrations, Health Care Financing Administration, 2504 Oak Meadows Building, 6325 Security Boulevard, Baltimore, Maryland 21207.

Coverage

Skilled nursing facility services

Nursing homes provide an array of nursing and rehabilitation services for patients after an acute illness as well as nursing and other care services for persons with long-term chronic conditions. Medicare's SNF benefit was specifically designed to provide only for relatively short-term subacute care needs. Until implementation of the 1988 Amendments to the Social Security Act, SNF benefits were available only to persons who were previously hospitalized for at least 3 days. The patient's condition must require daily skilled nursing or rehabilitation (physical, occupational, or speech therapy) services that, as a practical matter, can be provided only in an SNF. .

Medicare coverage in an SNF is not allowed if the patient needs skilled nursing or rehabilitation services only once or twice a week or if the person does not need to be in an SNF to receive those services. Until the 1988 Amendments to the Social Security Act, Medicare covered up to 100 SNF days for qualified persons during each spell of illness. Twenty SNF days were without any cost sharing; the 21st-100th days required a cost-sharing amount per day that was one-eighth of the hospital deductible. In 1988, the inpatient hospital deductible was set at $540. Thus, the SNF coinsurance was $67.50 per day, an amount that was sometimes equal to, or even greater than, the full SNF charge per day.

Skilled nursing services are highly technical. Examples of patients discharged from the hospital who require technical nursing services include those who need nasogastric feedings, those who require medication by injection (other than self-administered injections for diabetes), those with new colostomies in the presence of associated complications, or those with serious decubitus ulcers. Daily rehabilitation services might be needed for a period of time by hip fracture patients who need to relearn weight bearing to ambulate or severe stroke patients with paralysis or aphasia (loss of language).

As noted earlier, Medicare's nursing home benefit is limited by the number of days of care covered and by the requirement of the need for highly skilled services. Thus, Medicare's share of total annual nursing home expenditures has constituted only about 2 percent of the total outlay for nursing home care (Waldo, Levit, and Lazenby, 1986).

Home health agency services

HHA services are covered for Medicare beneficiaries who are homebound and who require intermittent skilled nursing care or physical or speech therapy. Medicare does not pay for HHA services for patients who need daily skilled nursing care for a long and indefinite period of time.

If intermittent skilled nursing care or physical or speech therapy is needed, Medicare can also pay for occupational therapy, part-time services of home health aides for patients who need assistance in the activities of daily living (which include walking, transferring, dressing, bathing and oral hygiene, toileting, and eating), medical social services, medical supplies, and durable medical equipment. The regulations stipulate that, when skilled nursing care or physical or speech therapy is no longer needed, Medicare can continue to pay for home health visits if occupational therapy is needed.

Medicare does not cover general household services, meal preparation, meals delivered, shopping, or other homemaker services furnished mainly to assist people in meeting personal or domestic needs. Until the 1988 Amendments to the Social Security Act take effect, Medicare does not cover drugs and biologicals.

For persons who qualify for HHA services, no prior hospitalization is required. There is no limit to the number of visits covered, nor is there any cost sharing. Patients who receive covered SNF services might qualify for HHA coverage after discharge from the nursing home. The patient's physician determines the need for home health care and must set up a plan of home health care.

Typically, patients who qualify for covered HHA benefits require professional nursing services and/or physical, occupational, or speech therapy a few times a week. A newly diagnosed diabetic might qualify for HHA services after hospitalization in order to be monitored by a nurse for proper injections of insulin and instructions in diet changes, or a patient with a heart condition may need to be monitored for blood pressure.

In a study of the national health expenditures for 1985, it was reported that an estimated 85-90 percent of all home health care furnished was for the population 65 years of age or over. The authors also noted that an analysis of annual home health agency cost reports indicates that about 50 percent of all agency costs were for services, medical equipment, and supplies provided to Medicare patients (Waldo, Levit, and Lazenby, 1986).

Inpatient hospital rehabilitation services

Rehabilitation services are designed to treat functional limitations and disability. These services are provided to restore individuals who are incapacitated by illness, congenital defects, or accident to their highest level of functional ability. The goal of comprehensive medical rehabilitation is to promote maximum levels of physical independence as well as psychological, social, economic, and personal adjustment. The rehabilitative process generally begins after the acute care phase of treatment, when the patient's medical condition has stabilized.

Rehabilitation services can be delivered in a variety of settings, depending on the needs of the patient, referral practices, and availability of services. Patients needing rehabilitation services may receive them in acute care settings during their hospital stays, in skilled nursing facilities, in long-term hospitals, from

home health agencies, or in outpatient rehabilitation departments.

Intensive rehabilitation care is also available from specialized inpatient hospital rehabilitation facilities, which can be divided into two categories: rehabilitation hospitals and "distinct-part" rehabilitation units. Rehabilitation hospitals are independent entities either within or outside of a larger medical center. Rehabilitation units are defined, distinct units within general hospitals. In this discussion, both categories will be referred to as IHR facilities.

IHR services are covered by Medicare if they are reasonable and necessary with respect to efficacy, duration, frequency, and amount. Medicare requires that it must be reasonable and necessary to furnish the care on an inpatient hospital basis rather than in a less care-intensive facility (e.g., a skilled nursing facility) or on an outpatient basis. To qualify, a Medicare patient must require an intensive multidisciplinary program of care that is not available outside a hospital. The patient must also require the following:

- Twenty-four hour availability of a physician with special training or experience in rehabilitation and frequent (every 2-3 days), direct, and medically necessary physician involvement.
- Twenty-four hour availability of a registered nurse with special training or experience in rehabilitation.
- At least 3 hours per day of physical and/or occupational therapy in addition to other required therapies or services (speech therapy, social services, psychological services, or prosthetic-orthotic services).
- Care from a multidisciplinary team, minimally including a physician, rehabilitation nurse, and therapist.
- A coordinated program of care, including team conferences held at least once every 2 weeks to determine the appropriateness of continuing care.

In a 1983 survey, it was found that about one-half of all IHR admissions were paid for by Medicare (National Association of Rehabilitation Facilities, 1985). Rehabilitation facilities (along with long-term, psychiatric, and children's hospitals) are excluded from Medicare's hospital prospective payment system. Instead of being reimbursed using the DRG system, rehabilitation and other excluded hospitals are currently reimbursed using a cost-based system of limits similar to those included in the Tax Equity and Fiscal Responsibility Act (TEFRA) of 1982 (Public Law 97-248). TEFRA essentially established a limit on operating costs per discharge, and PPS legislation mandated that the rehabilitation hospitals and units be reimbursed using 1982 costs, with an update factor equivalent to the hospital services market basket and including some limits. For a rehabilitation facility established after 1982, the base period used is the first 12-month cost-reporting period following its designation as a PPS-excluded facility.

A hospital specializing in rehabilitation must officially apply for exclusion from the PPS system as a rehabilitation hospital. To qualify, the hospital must be primarily engaged in furnishing intensive rehabilitation services during its most recent cost-reporting period for an inpatient population of which at least 75 percent require treatment for a set of specified conditions (stroke, spinal cord injury, congenital deformity, amputation, major multiple trauma, fracture of femur, brain injury, polyarthritis, neurological disorders, and burns). These hospitals also must have a full-time director of rehabilitation who is a physician with at least 2 years of training or experience in treating patients requiring inpatient rehabilitation services.

For each patient admitted, Medicare requires a preadmission screening. A plan of treatment must be established, reviewed, and revised as needed by a physician in consultation with other professional personnel. Medicare fiscal intermediaries and peer review organizations are responsible for approving patients' rehabilitation treatment.

Requirements for qualifying as a rehabilitation unit are the same as those for freestanding rehabilitation facilities, with the following changes and additions: The director can be half time; written admission criteria must be applied uniformly to Medicare and non-Medicare patients to discourage patient shifting between acute care and the rehabilitation unit; the unit must be a separate cost entity with separate medical and financial records; and rehabilitation beds cannot be used for acute care patients.

In a study by the American Hospital Association (AHA) reported by Sonik (1987), it was found that the vast majority of patients admitted to inpatient rehabilitation facilities come from acute care hospitals. Of patients who entered freestanding rehabilitation hospitals, 72 percent came directly from a hospital. Of patients who entered rehabilitation units, 81 percent came from hospitals, 49 percent from within the same hospital and 32 percent from other hospitals. According to other research, 80-85 percent of rehabilitation patients were admitted from acute care hospitals (Hosek et al., 1986).

According to Sonik (1987), approximately 72 percent of rehabilitation patients were discharged from inpatient rehabilitation facilities to their homes, about 12 percent to acute care hospitals, about 11 percent to nursing homes, and about 4 percent to other facilities (e.g., domiciliary care facilities); about 1 percent were discharged deceased or to an unknown destination. Hosek et al. (1987) found that 70 percent of IHR patients were discharged home, 8 percent to acute care hospitals, 17 percent to nursing homes, and 4 percent to other settings; 2 percent died.

It is not uncommon for rehabilitation care to be interrupted by a readmission to an acute care hospital with either a recurrence of the problem for which the patient originally received acute care or a new problem or complication. Little information is available about the overall course of treatment for rehabilitation patients or the extent to which it includes transfers among various sites of care.

Supply

Skilled nursing facilities

The number of SNF's certified by Medicare increased from 5,197 facilities in May 1981 to 6,972 in November 1986. In 1986, 820,199 beds were certified by Medicare, Medicaid, or both.

The availability of nursing home facilities certified as Medicare SNF, Medicaid intermediate care facility, Medicaid SNF, or both Medicare and Medicaid SNF varies substantially by geographic area. In 1985, Iowa, Kansas, Minnesota, Nebraska, South Dakota, and Wisconsin all had certified nursing beds per 1,000 aged Medicare enrollees in the range of 80-100; in contrast, Arizona, Florida, Hawaii, and Nevada had fewer than 30 certified beds per 1,000 (Health Care Financing Administration, 1987b).

Home health agencies

The number of Medicare-certified HHA's increased from 2,212 in 1972 to 5,953 in 1986. During this time period, the distribution of HHA's by type of ownership changed significantly, reflecting, in part, the fact that proprietary HHA's in States that do not have licensure laws could be reimbursed under Medicare after the enactment of the Omnibus Reconciliation Act of 1980. In 1972, the three predominant types of HHA sponsorship were government (57 percent), Visiting Nurse Association (24 percent), and hospital (10 percent). In 1986, hospital-based HHA's increased to 23 percent of the total, proprietary HHA's accounted for 32 percent, government-sponsored HHA's fell to 20 percent, and Visiting Nurse Association HHA's fell to 9 percent (Health Care Financing Administration, 1987c).

Inpatient hospital rehabilitation facilities

Total

According to AHA annual survey data for 1981-86 (American Hospital Association, 1982-87), the number of beds identified by AHA respondent hospitals as devoted to rehabilitation has grown considerably. The respondent hospitals include facilities designated as excluded under Medicare from the prospective payment system as well as those not so designated. In 1981, AHA found that there were 395 rehabilitation facilities with a total of 15,699 beds. Of these facilities, 68 were freestanding hospitals, with 37 percent of the beds, and 327 were rehabilitation units, with 63 percent of the beds. In 1981, about 5 percent of all responding AHA hospitals had a rehabilitation unit.

In 1986, AHA found that the number of rehabilitation facilities had increased to 665 and the total number of beds to 22,367. Of this total, 77 were freestanding hospitals, with 29 percent of the beds, and 588 were rehabilitation units, with 71 percent of the beds. By this later date, 9 percent of the hospitals had established rehabilitation units. (In the next section, data are presented on the number of facilities that were officially categorized as excluded from PPS.)

The number of rehabilitation facilities varies considerably by geographic area. They tend to be concentrated in the Middle and South Atlantic, East North Central, and Pacific census divisions, where almost two-thirds of the rehabilitation units and hospitals are located (Sonik, 1987). Some areas of the country have no rehabilitation facilities (Wallace, 1988).

Prospective payment system-excluded facilities

The growth in PPS-excluded rehabilitation facilities from fiscal year 1984 to fiscal year 1987 is shown in Table 1. In 1984, after the conditions were formulated for PPS exclusion as rehabilitation hospitals, 49 rehabilitation hospitals and 308 units were classified as excluded. Since that time, the number has been growing, reaching 87 rehabilitation hospitals and 525 units by 1987. From 1984 to 1987, there was a 77.6-percent increase in the number of rehabilitation hospitals and a 70.5-percent increase in the number of units.

The increase in the number of excluded IHR facilities from fiscal year 1984 to fiscal year 1987 most likely reflects several factors. These factors include delays in applying for exclusion as an IHR facility because of uncertainty of the financial impact, delays in the Medicare certification process because of backlogs, and changes in treatment patterns after the implementation of PPS.

Later in the article, data are provided on recent trends in the use of SNF, HHA, and IHR services following an acute care hospitalization. Data are presented on the types of patients who use these services as well as changes in service use with the introduction of PPS.

Table 1

Number of PPS-excluded inpatient hospital rehabilitation facilities[1] and percent change, by type of facility: United States, fiscal years 1984-87

Type of facility	1984	1985	1986	1987	Percent change 1984-87
	Number of facilities				
Total	357	454	552	612	71.4
Rehabilitation hospital	49	68	79	87	77.6
Rehabilitation unit	308	386	473	525	70.5

[1]Under the prospective payment system (PPS), the Medicare program generally pays hospitals on the basis of a prospectively determined price for each type of case or diagnosis-related group. At present, four classes of specialty hospitals—children's, psychiatric, rehabilitation, and long term—and two types of distinct-part units in general hospitals—psychiatric and rehabilitation—are eligible for exclusion from PPS.

SOURCE: Health Care Financing Administration, Health Standards and Quality Bureau: Data from the Medicare/Medicaid Automated Certification System.

Sources of data

Both the Rand Corporation and Abt Associates were funded by HCFA to use Medicare claims data for periods before and after the introduction of the DRG payment system to generate files for a variety of tabulations and analyses related to post-hospital use. The files that were developed differ in sample size, time period, and data elements included.

The Abt files were created for the 5-year period 1981-85. A random sample of 8,000 hospital discharges per year were linked to all other Medicare-paid services for the period 60 days before and 60 days following the hospital stay. Persons who died in the hospital were excluded from analyses of post-hospital use. Using these linked files, Abt created tabulations to provide detailed data year by year on the trends in post-hospital care (Schmitz, 1987).

The Rand files are based on a 20-percent sample of Medicare beneficiaries' hospital discharges for two distinct time periods, calendar year 1981 and the period beginning July 1, 1984, and ending June 30, 1985, 12 months shortly after the DRG system was implemented. The sample consisted of approximately 1.7 million hospital discharges for each time period. Hospital records were merged with subsequent SNF, HHA, and IHR records to form episodes of care. Only Part A records were merged. The Rand tabulations contain detailed data on the use of post-hospital services according to the DRG for which the patient was hospitalized. Before PPS was implemented, IHR admissions to rehabilitation facilities that were part of an acute care hospital could not be distinguished in the Medicare data system from other admissions; thus, Rand tabulations contain information on the use of IHR hospital benefits in the latter time period only (Neu and Harrison, 1988).

Data from these projects and from HCFA files are used in the discussion of recent trends in the use of SNF, HHA, and IHR services after discharge from acute care hospitals. (Tabulations developed by Abt and Rand differ somewhat because of sample size and other factors, although the results are consistent and show the same trends.) Data are also presented on mean covered charges per user for each of these types of post-hospital treatment.

The data for 1985 were affected by changes in the record format used in the Medicare Administrative System. Consequently, some unknown portion of the 1985 data are not included in the files used for this report.

Use of services

To understand the trends in the use of post-hospital SNF and HHA services, it is necessary to consider first the trends in short-stay hospital use. As shown in Table 2, the hospital admission rate for persons 65 years of age or over in 1981 was 377 admissions per 1,000 Medicare enrollees; by 1983, the admission rate had reached 393. However, in 1984, the hospital admission rate declined for the first time since the beginning of Medicare, falling to 381 admissions per 1,000; in 1985, the rate declined again to 352. Despite these declines, the hospital admission rate for persons 65 years of age or over in 1985 (352 per 1,000) was more than one-third higher than the rate of 260 per 1,000 in 1967, the first full year of Medicare.

The mean length of stay for hospitalized patients 65 years of age or over declined each year throughout the period 1981-85, falling from 10.4 days in 1981 to 8.6 days in 1985. The downward trend in mean length of stay has been a steady phenomenon since 1967, the first full year of Medicare, when hospitalizations

Table 2

Trends in short-stay hospital, skilled nursing facility (SNF), and home health agency (HHA) use by Medicare beneficiaries: United States, 1981-85

Type of facility and measure	1981	1982	1983	1984	1985	Percent change 1981-83	Percent change 1983-85
Short-stay hospital							
Admissions per 1,000 aged enrollees[1]	377	386	393	381	352	4.2	-10.4
Mean length of stay[2]	10.4	10.2	9.8	8.9	8.6	-5.7	-12.2
Skilled nursing facility							
Percent hospitalized using SNF services within 60 days of discharge[3]	3.2	3.0	3.2	4.2	4.6	1.0	44.2
Mean covered days per user[3]	27.4	26.1	24.1	23.5	21.7	-9.8	-12.2
SNF users per 1,000 enrollees[1]	9	9	9	10	10	0	11.1
Home health agency							
Percent hospitalized using HHA services within 60 days of discharge[3]	9.1	10.9	14.1	16.6	17.9	55.0	27.0
Mean covered visits per user within 60 days of discharge[3]	11.6	13.3	13.4	14.5	14.2	15.5	6.0
HHA users per 1,000 enrollees[1]	35	40	45	50	51	28.6	13.3

[1]Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Office of Statistics and Data Management.
[2]Health Care Financing Administration, Office of Research and Demonstrations: Data from the Division of Program Studies.
[3](Schmitz, 1987).

averaged nearly 14 days. The decline in the mean length of stay in 1984, however, was substantially greater than that in previous years.

Skilled nursing facility services

According to data developed by Abt Associates, in 1981, 3.2 percent of hospitalized Medicare enrollees used covered SNF services within 60 days of discharge. From 1983 to 1985, the proportion increased from 3.2 percent to 4.6 percent. Some of the increase reflects the fact that the hospital admission rate declined selectively. For example, at the same time that the DRG system was implemented, inhospital cataract surgeries declined. Cataract patients rarely use covered SNF care. Thus, the hospitalized population after the implementation of the DRG system most likely had a higher concentration of patients who would qualify for Medicare-covered SNF services.

Another measure of SNF utilization—SNF users per 1,000 Medicare enrollees—is useful to consider when the hospitalized population has changed. Although the number of SNF users per 1,000 Medicare enrollees increased during this period, the increase was only about 11 percent, rising from 9 SNF users per 1,000 enrollees in 1981 to 10 per 1,000 in 1985. More insight into the change in the use of SNF services is provided later in tables containing data on SNF use according to the DRG of the prior hospitalization.

The mean number of covered SNF days per user declined during this period, from 27.4 days in 1981 to 21.7 days in 1985 (Table 2). The decline in mean number of covered SNF days per user reflects both an increase in short covered SNF stays and a decline in relatively long covered SNF stays. According to unpublished tabulations of Medicare administrative data, from 1983 to 1985, SNF stays with 7 or fewer covered days increased more than 56 percent and SNF stays with 31 or more covered days decreased 18 percent.

Home health agency services

The percent of hospitalized patients who used covered HHA services within 60 days of hospital discharge rose substantially during the period 1981-85. In 1981, 9.1 percent of the hospitalized population used HHA services within 60 days of discharge from the hospital; the corresponding figure for 1985 was 17.9 percent. The increase of 55.0 percent in the period 1981-83 (before the introduction of the hospital DRG system) was substantially greater than the increase of 27.0 percent in the period 1983-85.

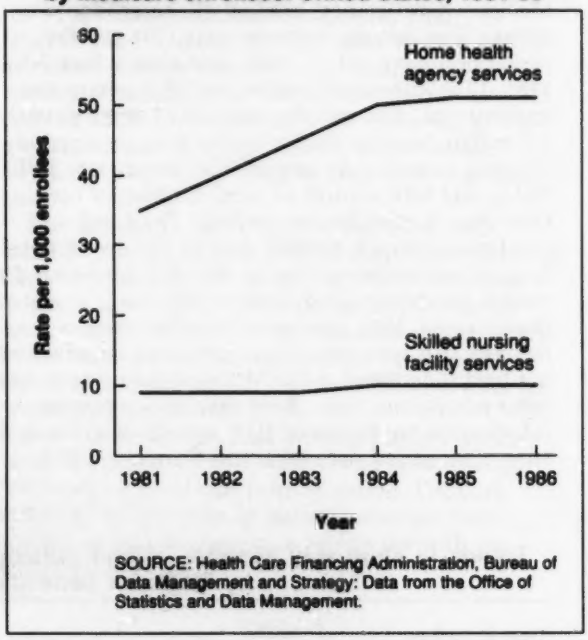
Medicare administrative data, which include all HHA users whether or not they were hospitalized, also indicate that overall HHA use increased during this period, rising from 35 users per 1,000 enrollees in 1981 to 51 users per 1,000 in 1985. The increase was again greater in the period 1981-83 than in the period 1983-85, indicating that the trend of increased use of HHA services does not reflect solely the introduction of the DRG system.

The relatively high use of HHA services per 1,000 enrollees compared with SNF use is shown in Figure 1. The relatively small change in the rate of SNF use compared with the rate of HHA use during the period 1981-86 is also shown.

The trends in Figure 1 are reflected, in part, in Table 3, in which are shown Medicare inpatient hospital, SNF, and HHA payments for fiscal years 1981 and 1986. Total Medicare benefit payments increased from $41.2 billion to $74.0 billion, or nearly 80 percent. The increase in inpatient hospital benefits was 65.9 percent. SNF benefit payments rose at a much slower rate, 32.7 percent, and HHA payments

Figure 1

Home health agency and skilled nursing facility use by Medicare enrollees: United States, 1981-86



SOURCE: Health Care Financing Administration, Bureau of Data Management and Strategy: Data from the Office of Statistics and Data Management.

Table 3

Total Medicare benefit payments and payments for Part A services, by type of service: United States, fiscal years 1981 and 1986

Type of service	Medicare benefit payments		Percent change
	1981	1986	1981–86
	Amount in millions		
Total Medicare benefit payments	$41,239	$74,036	79.5
Part A services:			
Inpatient hospital	27,751	46,042	65.9
Skilled nursing facility	429	568	32.7
Home health agency	914	2,266	147.9

SOURCE: Health Care Financing Administration, Office of the Actuary: Data from the Office of Medicare Cost Estimates.

increased 147.9 percent. The relatively small increase in benefit payments for SNF services reflects, in part, the high cost sharing required by beneficiaries for the 21st-100th SNF days in a benefit period.

Types of patients

From the linked file developed at Rand, hospital DRG's were ranked according to the percentage of total charges for SNF care. In 1984-85, three DRG's accounted for nearly 40 percent of total covered SNF charges. These were DRG 14 (stroke), accounting for 16.6 percent of total covered SNF charges; DRG 210 (hip and femur procedures), accounting for 13.5 percent of SNF charges; and DRG 209 (major joint and limb reattachment procedures), accounting for 8.4 percent of SNF charges (Neu and Harrison, 1988).

When hospital DRG's were ranked according to the percentage of total HHA charges within 60 days of hospital discharge, DRG 14 (stroke) and DRG 209 (major joint and limb reattachment procedures) ranked first and third; these DRG's accounted for 6.7 percent and 4.5 percent of total covered HHA charges, respectively. The second leading condition was DRG 127 (heart failure and shock), which accounted for 5.8 percent of total covered HHA charges.

In Table 4 are shown 19 DRG's that were among those DRG's with the highest fraction of hospitalized patients who subsequently used SNF or HHA services. DRG 210 (hip and femur procedures) was the most likely to result in SNF utilization; in 1984-85, nearly one-third of hospitalizations for this DRG resulted in SNF admissions. DRG 209 (major joint and limb reattachment procedures) and DRG 236 (fractures of hip and pelvis) were the next most important DRG's with regard to subsequent SNF use. These same three DRG's were also likely to be followed by HHA care after discharge from the hospital. Because some of the same patients use both SNF and HHA services after discharge from the hospital, the percents shown for SNF's and HHA's are not additive. (Neu and Harrison, 1988, found that 17.4 percent of SNF patients in 1984-85 subsequently used home health services.) As might be expected from the data in Tables 2 and 3, the increase in the percent using post-hospital care from 1981 to 1984-85 was greater for HHA services than for SNF services.

Table 4

Percent of hospital discharges using covered skilled nursing facility (SNF) and home health agency (HHA) services within 60 days of hospital discharge for selected diagnosis-related groups: United States, 1981 and 1984-85

Diagnosis-related group	Description	Percent using SNF services		Change in percent 1981 to 1984-85	Percent using HHA services		Change in percent 1981 to 1984-85
		1981	1984-85		1981	1984-85	
14	Specific cerebrovascular disorders except transient ischemic attack	11.9	13.3	1.4	16.4	21.7	5.3
82	Respiratory neoplasms	2.5	3.6	1.1	11.0	15.5	4.5
87	Pulmonary edema and respiratory failure	2.1	2.9	0.8	10.2	16.2	6.0
88	Chronic obstructive pulmonary disease	1.4	1.5	0.1	10.1	16.1	6.0
89	Simple pneumonia and pleurisy, age 70 and over and/or complications	2.9	3.5	0.6	7.6	12.1	4.5
127	Heart failure and shock	2.2	2.1	−0.1	11.9	17.8	5.9
130	Peripheral vascular disorders, age 70 and over and/or complications	2.7	2.7	0.0	10.1	14.8	4.7
148	Major large and small bowel procedures, age 70 and over and/or complications	4.1	4.2	0.1	17.6	22.0	4.4
174	Gastrointestinal hemorrhage, age 70 and over and/or complications	2.1	2.2	0.1	7.1	10.8	3.7
182	Esophagitis, gastroenteritis, and miscellaneous digestive disorders, age 70 and over and/or complications	0.8	1.0	0.2	5.4	9.8	4.4
209	Major joint and limb reattachment procedures	14.0	15.7	1.7	21.7	32.0	10.3
210	Hip and femur procedures, except major joint, age 70 and over and/or complications	28.4	31.1	2.7	21.1	31.5	10.4
236	Fractures of hip and pelvis	14.9	14.8	−0.1	17.6	25.2	7.6
239	Pathological fractures and musculoskeletal and connective tissue malignancy	4.5	5.8	1.3	15.4	23.7	8.3
243	Medical back problems	1.8	2.1	0.3	7.3	12.3	5.0
294	Diabetes, age 36 and over	2.0	2.2	0.2	14.5	21.7	7.2
296	Nutritional and miscellaneous metabolic disorders, age 70 and over and/or complications	4.4	4.7	0.3	12.9	18.3	5.4
320	Kidney and urinary tract infections, age 70 and over and/or complications	3.3	4.6	1.3	12.2	17.7	5.5
468	Unrelated operating room procedures	3.6	4.6	1.0	10.7	16.6	5.9

SOURCE: (Neu and Harrison, 1988).

Table 4 and subsequent tables in which patterns of post-hospital utilization categorized by DRG's are compared require a cautionary note. The recording of diagnoses (which determines the DRG) is known to have changed with the implementation of the hospital prospective payment system. Thus, changes over time in the use of post-hospital care by DRG may reflect, in part, coding changes.

Seven additional DRG's that resulted in substantial fractions of hospitalized patients who subsequently used covered SNF services are shown in Table 5, and five additional DRG's that resulted in substantial fractions of hospitalized patients who subsequently used HHA services are shown in Table 6. Evidently, the kinds of patients who, if they require post-hospital care, are likely to need skilled nursing or rehabilitation services on a daily basis are reflected in Table 5, and the kinds of patients who are more likely to be ambulatory and more likely to require part-time skilled nursing or monitoring are shown in Table 6. The increase over time in the percent of patients using post-hospital care tended to be greater for HHA services than for SNF services, a finding similar to the results shown in Table 4.

Geographic variation

The number of Medicare-covered SNF admissions and the average number of covered days vary widely by geographic area. In 1985, Medicare-covered SNF admissions were lowest in the Northeast (9 SNF admissions per 1,000 enrollees) and South (also 9 per 1,000) and highest in the North Central region (14 per 1,000) and the West (17 per 1,000). Across States, Medicare-covered SNF admissions ranged from a low of 4 admissions per 1,000 enrollees (averaging 28 covered days per stay) in Massachusetts to a high of 25 admissions per 1,000 (averaging 13 covered days per stay) in Iowa (Health Care Financing Administration, 1986).

Similarly, the number of persons who use HHA services and the average number of visits per year vary considerably by geographic area. In contrast to SNF use, HHA use in 1985 was highest in the Northeast (61 persons served per 1,000 enrollees) and South (52 per 1,000) and lowest in the North Central region (45 per 1,000) and West (48 per 1,000). Across States, Medicare use of HHA services ranged from a low of 26 persons served per 1,000 enrollees

Table 5

Percent of hospital discharges using covered skilled nursing facility (SNF) services within 60 days of hospital discharge for selected diagnosis-related groups: United States, 1981 and 1984-85

Diagnosis-related group	Description	Percent using SNF services		Change in percent 1981 to 1984-85
		1981	1984-85	
1	Craniotomy age 18 and over except for trauma	9.5	9.5	0.0
79	Respiratory infections and inflammations, age 70 and over and/or complications	5.4	8.4	3.0
113	Amputation for circulatory disorders except upper limb and toe	16.7	16.0	−0.7
253	Fractures, sprains, strains, and dislocations of upper arm, lower leg except foot, age 70 and over and/or complications	6.5	7.3	0.8
263	Skin grafts for skin ulcer or cellulitis, age 70 and over	11.3	15.6	4.3
271	Skin ulcers	9.6	10.8	1.2
416	Septicemia, age 18 and over	5.3	6.2	0.9

SOURCE: (Neu and Harrison, 1988).

Table 6

Percent of hospital discharges using covered home health agency (HHA) services within 60 days of hospital discharge for selected diagnosis-related groups: United States, 1981 and 1984-85

Diagnosis-related group	Description	Percent using HHA services		Change in percent 1981 to 1984-85
		1981	1984-85	
15	Transient ischemic attack and precerebral occlusions	8.0	12.0	4.0
96	Bronchitis and asthma, age 70 and over and/or complications	7.3	11.8	4.5
121	Circulatory disorders with acute myocardial infarction and cardiovascular complications, discharged alive	—	17.6	—
138	Cardiac arrhythmia and conduction disorders, age 70 and over and/or complications	6.9	10.3	3.4
140	Angina pectoris	5.3	8.3	3.0

SOURCE: (Neu and Harrison, 1988).

(averaging 16 visits per user) in South Dakota to a high of 87 persons served per 1,000 enrollees (averaging 43 visits per user) in Mississippi (Health Care Financing Administration, 1987d).

Inpatient hospital rehabilitation services

Information on the number of Medicare discharges from inpatient rehabilitation hospitals and units and Medicare reimbursements for 1985 and 1986 is provided in Table 7. The number of discharges rose from 68,920 to 89,020, a 29-percent increase. Total Medicare reimbursements for these services were $479.4 million in 1985 and $657.2 million in 1986. These increases most likely reflect, in large part, the inclusion of Medicare discharges from rehabilitation facilities for beneficiaries in Massachusetts and New York. These two States became subject to the hospital prospective payment system in late 1985 and 1986; previously, their rehabilitation patients would have been counted among the discharges from other facilities, e.g., acute care hospitals or chronic care hospitals.

According to data tabulated by the Rand Corporation, stroke is an especially important condition for IHR care, accounting for 43.6 percent of all Medicare-covered IHR charges. The most important DRG's, based on the fraction of Medicare hospitalized patients who received IHR services within 60 days of discharge from the hospital, are listed in Table 8. Although the list differs from the SNF and HHA data presented earlier, it is notable that DRG 14 (stroke), DRG 209 (major joint and limb reattachment procedures), and DRG 210 (hip and femur procedures) are important DRG's in all three modes of care.

Differences in post-hospital care use

In the data for 1984-85 from the Rand tabulations (Table 9), a contrast can be seen in the use of covered post-hospital IHR, SNF, and HHA services. Of all Medicare acute care hospital discharges, 0.6 percent used IHR care within 60 days of their hospitalization. The average Medicare-covered stay in an IHR facility was 23.2 days, and the average charge per user was $10,489, or $452 per day. In comparison, the average

Table 7

Number of Medicare discharges and reimbursements for services in inpatient rehabilitation hospitals and units: United States, 1985 and 1986

Type of facility	1985	1986	1985	1986
	Number of discharges		Reimbursements in millions	
Total	68,920	89,020	$479.4	$657.2
Rehabilitation hospital	21,300	29,800	130.0	211.7
Rehabilitation unit	47,620	59,220	349.4	445.5

NOTE: Much of the increase from 1985 to 1986 in discharges and reimbursements most likely reflects the inclusion of Massachusetts and New York in the hospital prospective payment system for the first time during this period.

SOURCE: Health Care Financing Administration, Office of Research and Demonstrations: Data from the Division of Program Studies.

Table 8

Percent of hospital discharges using inpatient hospital rehabilitation (IHR) services within 60 days of hospital discharge for selected diagnosis-related groups: United States, 1984-85

Diagnosis-related group	Description	Percent using IHR services
1	Craniotomy, age 18 and over except for trauma	8.0
5	Extracranial vascular procedures	1.3
12	Degenerative nervous system disorders	2.4
14	Specific cerebrovascular disorders except transient ischemic attack	6.8
15	Transient ischemic attack and precerebral occlusions	0.4
110	Major reconstructive vascular procedures, age 70 and over and/or complications	0.9
113	Amputation for circulatory disorders except upper limb and toe	4.3
209	Major joint and limb reattachment procedures	2.4
210	Hip and femur procedures, except major joint, age 70 and over and/or complications	2.9
214	Back and neck procedures, age 70 and over and/or complications	3.4
285	Amputations for endocrine, nutritional, and metabolic disorders	5.5

SOURCE: (Neu and Harrison, 1988).

Table 9

Post-hospital use of inpatient hospital rehabilitation (IHR), skilled nursing facility (SNF), and home health agency (HHA) services by Medicare beneficiaries: United States, 1984-85

Measure	IHR services	SNF services	HHA services
Percent hospitalized using services within 60 days of discharge	0.6	3.1	13.3
Mean covered days or visits per user within 60 days of discharge	23.2 days	25.1 days	14.1 visits
Mean covered charge per day or visit	$452 per day	$114 per day	$54 per visit
Mean covered charge per user	$10,489	$2,873	$756

SOURCE: (Neu and Harrison, 1988).

Medicare-covered hospital stay for all discharges was 7.8 days, and the hospital charge per user was $4,902, or $627 per day. Thus, IHR stays tend to be much longer and costlier than the average acute care stay.

Compared with IHR care, about five times as many Medicare hospital discharges used SNF care (3.1 percent), with an average of 25.1 covered days of care per user. The average covered charge per SNF stay was $2,873, or $114 per day. About 13.3 percent of Medicare hospital discharges used home health care during this period. The average number of home health visits covered under Medicare was 14.1; the average covered charge per user was $756, or $54 per visit.

The large differences in mean covered charge per user across these three sites of post-acute care no doubt reflect, in part, differences in case mix. To date, no indepth study has been completed in which the characteristics (other than broad diagnostic categories) of patients treated in each of these sites and the outcomes of their care are compared. In the final section of this article, a major study is described that was designed to address these issues.

Discussion and future directions

Most of the research on post-acute care that has been conducted to date has been focused on the utilization and costs of specific types of care. Neither the availability and adequacy of care after discharge from the hospital nor the effectiveness of the care delivered have been examined. Particularly with the incentives of the DRG system, there has been a growing interest in examining episodes of patient care in more depth, including examining the types of services delivered in various settings and the outcomes of that care. In addition, there is considerable interest in comparing the cost effectiveness of services delivered in the various settings.

The issue of availability and adequacy of post-hospital care services is especially important because of the sociodemographic characteristics of the elderly. After the death or institutionalization of a spouse, many of the elderly live alone. Individuals living alone are likely to face special care needs after discharge from the hospital. The rate of use of Medicare-covered post-acute care services rises substantially as age increases, no doubt reflecting increased morbidity and frailty with advancing years as well as the increased likelihood of living alone because of the death of a spouse.

In an interim study submitted to HCFA (Forgy and Williams, 1987) in which patients' severity of illness at the time of hospital discharge was analyzed, the authors indicate that patient severity was greater, on average, in 1985 than in 1982. Using a severity-of-illness classification system known as MEDISGROUPS, the authors compared 1982 and 1985 data. They found that a higher proportion of patients in 1985 than in 1982 were discharged at level 1; this means that the patients had not recuperated enough to reach level 0, the lowest level of severity in that system. This may not be detrimental to the patient. However, availability and adequacy of post-hospital services are clearly necessary in an era of shorter hospitalizations and increased severity of illness at the time of discharge.

Another issue is that, among the elderly, acute illness often strikes those who are already facing chronic illness. Chronically ill or disabled elderly who reside in the community and who suffer an acute care episode are likely to have greater care needs than other discharges after they leave the hospital and return home.

HCFA and the Office of the Assistant Secretary for Planning and Evaluation of the Department of Health and Human Services have under way two major studies that focus on some of these issues (Health Care Financing Administration, 1988). The first is a pilot study to design and test methods for a national study on the availability and adequacy of post-hospital care. In the study, procedures for identifying patients at high risk of experiencing difficulties in obtaining post-hospital care and at risk of adverse outcomes are being developed and tested. The pilot study is focused on elderly patients discharged to the community (to home health care or self-care) rather than to institutions. Data will be gathered on all nursing, rehabilitation, and personal care services provided by formal caregivers (both those covered by Medicare and those not covered) and informal caregivers. These are the types of care most likely to be important in the immediate post-discharge period and most likely to be affected by the shorter lengths of stay associated with the DRG payment system. This pilot study contract was awarded to Systems Sciences, Inc., with Mathematica Policy Research as the subcontractor. It is expected to be completed by January 1989.

HCFA and the Office of the Assistant Secretary for Planning and Evaluation are also funding a 3-year cooperative agreement project awarded to the University of Minnesota to study the course and outcomes of Medicare- and non-Medicare-covered post-acute care received in the home, in skilled nursing facilities, and in inpatient hospital rehabilitation facilities. Patients with five types of conditions will be studied: stroke, congestive heart failure, chronic obstructive pulmonary disease, hip fractures, and hip/joint procedures. Included among the questions to be addressed in this study are the following. What factors influence where elderly patients go after they leave the hospital, that is, as they move from one care setting to another? What patterns can we identify in these complex transitions? What factors are associated with the kind and amount of post-acute care that patients receive? How well do patients function and how independently do they live at 6 weeks and 6 months after hospitalization? What are the determining factors for how well they function? Data, including clinical severity and functional status, will be gathered immediately prior to patient discharge from the acute care hospital, then again at 6 weeks and 6 months after discharge.

Medicare patient bill files linked across acute care and the three settings of post-acute care under study will also be analyzed for this project as part of a subcontract to the Rand Corporation. Results are expected in early 1990.

In these major studies, some of the issues that have been raised by the introduction of the DRG system will be addressed. The problems that some beneficiaries encounter after discharge from the hospital may be amenable to changes in existing mechanisms or to better coordination among Federal, State, and local programs as well as community-based initiatives that focus on at-risk populations. The appropriate policy changes clearly depend on understanding the problems being encountered and the experience of the Medicare population in an ever-changing environment.

Availability and use of post-acute care services will no doubt be influenced by the recent passage of the Medicare Catastrophic Coverage Act of 1988. This legislation made a number of important changes in the provisions affecting skilled nursing facility and home health care. With regard to SNF care, the requirement for a prior 3-day hospital stay was removed. The number of covered SNF days was changed from 100 days per spell of illness to a total of 150 days per year. The coinsurance provisions for SNF care were altered. Prior to the amendment, 20 SNF days were provided without any cost sharing; for the 21st to 100th days, a cost-sharing amount equaling 12.5 percent of the hospital deductible was required per day. The new legislation requires coinsurance equaling 20 percent of the national SNF average per diem costs for the first 8 days of SNF care in a year. These changes in SNF services become effective on January 1, 1989.

For home health care, the new legislation mandates that the definition of skilled nursing care be expanded so that "daily" care can be provided for up to 38 consecutive days in any given period, instead of the previous widely used interpretation of 21 days. Intermittent care will be available for up to 6 days a week for qualifying persons, instead of the 4 days per week generally authorized previous to the 1988 Amendments to the Social Security Act. These provisions for HHA services take effect on January 1, 1990.

At present, it is difficult to predict the effects and magnitude of these changes on future SNF and HHA utilization and costs. Some increases are expected in both of these services. It will be important to assess the impact of these new provisions in the law, especially as they relate to the availability and use of post-hospital care.

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Case mix for nursing home payment: Resource utilization groups, version II

by Don P. Schneider, Brant E. Fries, William J. Foley, Marilyn Desmond, and William J. Gormley

A study of 3,427 nursing home residents in New York State, measuring both resources used and resident characteristics, was used to develop a resident classification system for payment purposes. The system balances clinical, statistical, and administrative criteria, making it useful both for the New York State Medicaid payment system and for quality of care and facility management.

Introduction

The majority of systems currently employed to pay for institutional long-term care do not explicitly recognize the differences between residents in the amount of resources that are utilized in their care. Without such recognition, payment systems produce undesired incentives for providers to care for the least disabled residents. Nursing homes are implicitly encouraged to admit light-care residents and to delay discharge of those with the lowest care needs to home- or community-based care. Moreover, facilities that serve those residents requiring more intensive care either are reimbursed for their costs or are paid an average amount based on their cost experience pooled with the costs of other nursing homes.

Both cost-based and flat rate (one price for all residents) systems are inequitable for an individual nursing home. Cost-based reimbursement encourages nursing homes to expend money with the full expectation that whether such expenditures are effective, efficient, or even justifiable in the care of residents, they will become part of future cost bases and thereby increase future reimbursements. Under cost-based reimbursement, efficient management systems can be replaced by strategies to increase costs up to an imposed ceiling; those facilities that do this best, and have done so for years, will fare the best regardless of the types of residents for whom they care. On the other hand, flat-rate systems pay all nursing homes in a class or statewide a constant per diem rate, without considering their resident populations.

In the development of a new Medicaid payment system for New York State nursing homes, we developed a methodology that would directly recognize differences between residents in the quantity and thereby the cost of the care they received. Such a "case-mix" resident classification system would remove the incentive to avoid admitting heavy-care residents. In fact, it permits design of payment systems that are even-handed, appropriately paying for care of all residents at a level commensurate with the cost of their care.

A key step in the development of the payment system was the construction of a method to measure the case mix of nursing homes. We discuss here that effort; the issues of moving from a case-mix measurement system to a case-mix payment system are addressed in other work we have done (Schneider, Fries, Desmond et al., 1985). We strongly advocate separating consideration of the issues of case-mix measurement from those of case-mix payment. Although considerable attention is required to construct a measurement system applicable to case-mix payment, this work can be performed prior to payment design. Case-mix measurement is primarily a scientific issue: how to determine those characteristics that relate to the cost of care. On the other hand, payment design is more a political process, designed around the goals and realities of providers and payers. Confounding the two efforts complicates the process unnecessarily. Nevertheless, excellent case-mix payment systems are designed around excellent case-mix measurement systems. We thus began our development by considering methods to measure the resource use—the case mix—of residents in nursing homes.

Background

There have been two approaches to developing case mix for nursing homes, as there have been, although earlier, for hospitals (Fetter et al., 1980). In the earlier approach, a variety of characteristics about nursing homes were used to explain facility cost. These variables usually included facility size, ownership, level of care, payer mix, and so forth, and at times summary measures of facility case mix such as the percent of residents who are ambulatory. This resulted in a nominative relationship which was then used as a measure of the facility's case mix. An example of this was the system previously in place in New York, described by O'Donnell and Hannon (1983). Eleven such studies were reviewed by Birnbaum et al. (1981).

We have avoided the facility-related approach for a variety of reasons. First, such an approach does not recognize that it is the care needs of individual residents that are the major determinants of cost and thus does not provide inherent and explicit incentives to accept heavier-care residents. The variables given in the previous paragraph, for example of facility payer

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Reprint requests: Don P. Schneider, Rensselaer Polytechnic Institute, Troy, New York 12181 or Brant E. Fries, Institute of Gerontology, CII 5015 University of Michigan, 300 North Ingalls, Ann Arbor, Michigan 48109-2029.

mix as a predictor of cost and thereby a case-mix surrogate, are representative of this type of problem. Second, many of the measures that might be used are those cost-related items that might well be controlled. Thus, their inclusion in a rate-setting formula is a sophisticated, indirect return to cost reimbursement rather than a prospective rate-setting approach. Third, nursing homes would still have to cope with differences in the intensity of care required by their residents, and these differences over time or across facilities would not be recognized outside of those correlated with facility characteristics.

The second generic approach to define case mix solves these problems by directly examining the residents in a facility. The logic for this approach is based on the industrial engineering concept of the "product" of a firm. If the types of residents in a facility or the level of their needs can be specified, then a facility's case mix is the amalgamation of these measures for all its residents. The best known application of this approach is the diagnosis-related groups (DRG's) system for acute care hospitals.

In long-term care there have been several resident-level case-mix measure and resident classification systems suggested. Some of the work we considered included systems developed by the Battelle Human Affairs Research Centers (McCaffree, Winn, and Bennett, 1976; McCaffree, Baker, and Perrin, 1979; Cavaiola and Young, 1980), and the State of Maryland (Deane and Cella, 1981), and the earlier version of the resource utilization groups (Fries and Cooney, 1985). Examples of these approaches are well documented in the report to the Health Care Financing Administration by Stassen and Bishop (1983). Other systems, for example those used for reimbursement determination in Illinois, Ohio, and West Virginia, define case mix at the resident level, but principally utilized services in this determination; we discuss later our concerns with service-based approaches. During or subsequent to the development work described here, other systems have been developed by Weissert et al. (1983), Cameron (1985), the Minnesota Department of Health (1986), Morris et al. (1986), and Arling et al. (1987).

Conceptual approach

The goal of the current work was to develop a resident classification system consisting of resident groups, defined by resident characteristics, which would be predictive of nursing home resource use and usable in a payment system. We denote the system derived "resource utilization groups, version II," or RUG-II. Each part of this goal statement had important implications for the development effort.

First, we sought a "classification" or "grouping" system; an alternate approach would lead to an "index" or "rating" system in which a number representing relative resource use is assigned to each resident directly.[1] Advantages exist to each approach on conceptual as well as technical grounds. Index (rating) systems can make conceptual sense if they add the times spent caring for particular resident conditions. Such systems are most often derived through regression or discriminant analysis. Grouping systems conceptually follow categorization approaches often seen in biology and medicine. They are derived through analysis of variance and allied statistical techniques. We have selected this latter approach because of its adeptness in handling interactions, i.e., the synergistic effects of two or more resident conditions on resource use. For example, we believe that a single condition may not lead to high resource use, but may in combination with a second.

Following the grouping approach, one can envision a range of possible systems which on the one extreme classifies every resident into a separate group and on the other has all residents in the same group. Both extremes are inappropriate: the former, although recognizing the differences always seen between any pair of residents, provides no understanding of resource use; the latter, similar to most current reimbursement systems, provides little or no differentiation of residents. Most current systems recognize only the difference between intermediate care facility (ICF) and skilled nursing facility (SNF) residents. We sought a system between these two extremes, identifying clusters of residents who have relatively homogeneous resource use. Clearly, with a limited number of groups there remains substantial differences between residents within each group, but the groups are relatively homogeneous and different from each other.

Second, we considered only systems that employed *resident* characteristics. Based on the work of others and our own observations, significant explanation of resource could be expected by recognizing the type of facility (SNF versus ICF), ownership (proprietary, voluntary, governmental), organization (freestanding versus hospital-based), Medicaid occupancy, and so forth (Bishop, Plough, and Willemain, 1980; Shaughnessy et al., 1985). Based on the logic discussed in the previous section, all of these possible defining conditions were considered inappropriate: they did not refer to residents' characteristics, but rather to where residents were and the services they were provided.

Third, we wished to predict actual resource use, at the level of the individual resident. A potential model for this development, the diagnosis-related groups (DRG's), used for case-mix measurement in the acute care system and the basis for Medicare's prospective payment system predict resource use for an entire episode of care. However, for long-term care, lengths of stay—and thereby episode costs—are extremely variable, with similar residents institutionalized for days, weeks, or multiple years. Although paying for an episode would be technically feasible and perhaps

[1] It should be noted that the RUG-II system utilizes an (activities of daily living) index, but only to define patient groups; thus, this system remains one of the "grouping" type.

appropriate for financing at the aggregated level of a large population, practically, and at the level of an individual nursing facility, this high variability makes it necessary to consider per diem payment systems. The effort here, therefore, focuses on explaining those costs specifically associated with the care of a resident in a nursing home for an individual day.

Finally, operational implementation in a payment system is feasible only if the case-mix measure is based on characteristics that are valid, measurable, and reliable, and that can be audited. For example, we found that a resident's functional capability to bathe was highly associated with a facility's practice patterns: In some, residents taking a bath would have active staff assistance regardless of their functional capability. It follows that bathing was not a valid resident characteristic, even when it could be measured reliably.

The overall goal led to a set of specific criteria for system development. These criteria form three major categories: statistical, clinical, and administrative.

Statistical criteria

The major statistical criterion used was a measure of how many of the differences in resource use between nursing home residents could be explained by the resident groups; this proportion is denoted "variance explanation." For example, the pilot RUG system (Fries and Cooney, 1985), consisting of 9 groups, achieved a variance explanation of 37.8 percent—37.8 percent of the differences in the dependent variable were explained by this system—an initial target for the current development. For comparison purposes, the DRG system, when applied to all patients in acute care hospitals, has a variance reduction of approximately 30 percent (Cretin and Worthman, 1986), although we caution against the direct comparison of these numbers. Other statistical criteria included measures of the homogeneity of the final groups, as measured by their coefficient of variation (the group standard deviation divided by the group mean) and measures of the differences between group means.

Clinical criteria

A system that makes clinical as well as statistical sense is more likely to be accepted and used in clinical environments. We defined "clinical sense" to mean that residents within a category had clinical affinity. In our development effort, we were assisted by a technical panel including clinicians (physicians, nurses, therapists, etc.) as well as administrators, researchers, and health care policy analysts. The charge to this panel was to help design possible taxonomies of residents and new combinations of variables to be tried and to assist in understanding analytic results.

Initially, we expected that this panel would assist solely in providing a clinical reality to the derived system. We anticipated that their suggestions, provided interactively with our analyses, would lead to an admixture of new possible approaches and significant numbers of invalid hypotheses. Although these both did occur, we subsequently found that this clinical reality provided us with new insight that led to a superior system on statistical grounds as well. This result by itself is important for future studies, emphasizing the need to combine statistical and clinical criteria.

Administrative criteria and incentives

Classification systems often are not appropriate for the particular context in which they might be employed. For payment applications, often the problems involve the provision of inappropriate provider incentives. One such is an incentive to "game" the system: to develop for a resident a characteristic at little cost to the provider that will result in increased case-mix payment. An example can be drawn from the earlier version of the RUG's (Fries and Cooney, 1985), a system developed for retrospective analysis of the differences between nursing homes' costs. This system used the monitoring of intake and output of fluid to differentiate the two highest care groups. In addition to making clinical sense, fluid monitoring acted as a surrogate (later we use the term "indicator" for such a variable) for the bundle of needs of the sickliest nursing home residents. However, for prospective payment, a system based in part on I/O monitoring would provide a significant incentive for facilities to game by placing relatively ill residents on fluid monitoring, especially because monitoring would cause little harm to the resident.

Some variables that can be gamed provide appropriate incentives, such as for the provision of rehabilitation therapies. In the system we developed, rehabilitation services were explicitly included to provide incentives for their expanded use. Other services such as bowel and bladder training and psychiatric care are required to support the claims of particular resident characteristics (incontinence and behavioral problems, respectively). The choice of which variables to include or exclude became a major issue in the derivation process.

The incentive issues of utilizing measures of service as indicators in a case-mix system are complex. Where ever possible, we attempt to use measures of the need for a service rather than the provision of the service itself. However, in many cases one cannot avoid such variables, as need cannot be well predicted. The most obvious example is the use of surgical procedures in the DRG system. On the other hand, uncontrolled use can lead to heavily service-based systems such as those employed for nursing home payment in Illinois, Ohio, and West Virginia, with significant potential for gaming. Neither choice is right or wrong.

We suggest that wherever possible one should avoid service variables unless they meet at least some of the following criteria:

- The extra cost of providing the service offsets a significant portion of the increased payment.

- The service has the potential of serious negative consequences to a resident; again, this makes it unlikely to be gamed.
- There are no other ways to predict the need for this service.

The stronger the effect of service variables in a system, the greater the need to assure the appropriate provision of these services outside of the associated payment system, for example by utilization review.

The application of a resident classification system for prospective payment thus places additional requirements on the choice of variables. In addition to being relatively immune to inappropriate gaming, the variables must lend themselves to being measured validly and reliably, and effective auditing must be possible. Also, the variables must provide incentives for appropriate care, where possible.

Methods

Data collection

The derivation of the resident classification system necessitated data collection on a sample of nursing home residents to obtain objective measures of resource use and a broad spectrum of resident characteristics.

The major methodological difficulty in data collection was the measurement of the resources—primarily staff time—used in the care of residents. We rejected an observer time-and-motion study in favor of one employing self-reporting by staff, which would permit efficient data collection on a large number of residents. This required a variety of techniques to assure accurate measurement. Staff members—registered nurses (RN's), licensed practical nurses (LPN's), and aides and orderlies—kept personal records of all time spent with all residents under their care or on more general "unit activities." All time spent with or for a resident was associated with that resident, including time spent on actual care or monitoring, charting, discussing the resident in a meeting or on the telephone with a physician, and so forth. Only the time itself was collected; we did not collect either the number or duration of individual tasks, as others have done (e.g., Cameron, 1985). All other "non-resident-centered" time was assigned to major activities in support of the ward, including meetings, generic charting, restocking supplies, ward maintenance, or for breaks or meals (Table 1).

The major problem we addressed was to assure that all time was allocated. The total time available by the practitioner should be approximately equal to the time attributed to residents plus unit activities. At least at the end of the shift, all staff members reconciled the time documented with the duration of the shift; the two had to be within 30 minutes. Any anomalies were addressed in a structured manner considering activities performed, residents cared for, or special events, with the assistance of senior staff from the facility. We believe that this method of data collection is both feasible and effective in developing accurate measurement of resource use in health facilities.

As our time measurement required staff to account for all of their time, we enrolled entire resident care units in our data collection, with all full-time staff participating during a 24-hour collection period. For staff who rarely had contact with residents in the unit, including those involved in physical, occupational, or recreational therapy (PT, OT, RT), speech, or inhalation therapy, psychotherapy, audiology, or social services, we collected treatment time via a week-long log for each resident. Of these services, only the first three—PT, OT, and RT—along with social services were provided to more than a very few residents. The others, provided to less than 0.4 percent of the residents, were eventually not considered in the analysis, although it does not follow that either the resident dependencies requiring such services or the payment for such services are omitted from the derived system.

We also collected ancillary charges, including pharmacy, physician services, central services supplies, and laboratory tests for a sample of residents. Of these, only pharmacy represented significant costs (4 percent of all reported direct resident care costs) and was tested in the analysis. Again, although the system was derived without these costs, many of them can be expected to be related to other resident service needs and, as such, are implicitly included.

Residents were assessed by using an instrument that listed a broad spectrum of characteristics. The major sections included administrative and resident demographics (gender, age, admission date, primary reason for admission, etc.); medical conditions (diagnoses, hospital DRG, level and number of decubiti, vision, hearing, edema, severe pain, contractures, etc.); activities of daily living (ADL's)—a resident's functional ability in bathing, eating, mobility, transferring from bed to chair, toileting, dressing and personal hygiene—and continence;

Table 1

Percent distribution of reported staff time in skilled nursing facilities

Time classification	Registered nurses	Licensed practical nurses	Aides
Total	100	100	100
Resident centered	38	48	58
Unit activities	62	52	42
Meetings and discussion	7	3	7
Documentation and auditing	21	16	[1]4
Administration	12	6	(2)
Ward maintenance, supplies, and routine activities	8	15	17
Off unit	6	4	4
Meals and breaks	8	8	10

[1]For aides, this category represented writing notes and reports.
[2]Not applicable.

psycho-social and behavioral conditions (regression, physical aggression, verbally abusive, withdrawn, delusions, etc.); services and conditions (therapies, restraints, medications, etc.); and availability of social support. In total, 195 items were included. The instrument was carefully designed to reduce ambiguity in assessment, including specifying time periods and frequency (e.g., ADL's were those applicable 60 percent of the time for the previous 2 weeks) and providing instructions and definitions on the form itself. The instrument itself was reviewed by more than 150 professionals and pretested and checked for reliability in pilot nursing homes.

The sample of New York State nursing homes chosen for data collection was selected to assure that all types of residents were seen, rather than to attempt to randomize over all types of nursing homes. In particular, we sought to oversample heavy-care residents. These residents, relatively rarer in the population, needed to be obtained in numbers sufficient for statistical recognition in separate payment categories. All facilities chosen were screened to meet quality of care standards. A system based on care patterns in substandard nursing homes would have little use. As well, facilities in the top or bottom 10 percentiles of staffing were excluded. The sample of homes was stratified by geographic location, sponsorship, hospital-based versus freestanding, size, case-mix intensity (as measured by the 1983 New York State reimbursement methodology), and single level status (ICF or SNF) versus combined. From one to three units of each selected facility—and thereby all residents in these units—were involved. In total, we collected data on 3,427 residents in 52 facilities.

We developed a variety of methodologies to address potential problems of a decentralized data collection effort. These included: recruiting facility staff as reviewers of data quality; involving a limited number of assessors; training of all data collectors and data quality reviewers; pretesting all methods in nursing homes immediately before actual data collection; careful timing of all data collection and review; internal reviewing of all data and reassessment of 10 percent of the residents; returning computerized edits rapidly to facilities for resolution; on-site project staff reviewing of all data and computer-generated edits; and closely communicating via a "hot-line" with all collection, review, and other project personnel. Based on problems noted when the data were reviewed, two nursing homes were asked to recollect their data, which they subsequently did. Of the final data received, 22 residents were subsequently excluded because of unusual events, such as a resident not being in the unit the day the staff time was collected, part of data was still missing, etc. (Schneider et al., 1987).

Analysis

The principal statistical technique we employed in the derivation of a classification was AUTOGRP (Mills et al., 1976), an interactive implementation of AID (automatic interactions detection) (Morgan and Sonquist, 1963) and used in the original pilot RUG study and in the formation of the DRG's. In AID clustering, the full set of data points is recursively partitioned into subgroups by a set of splits, each split based on the values of a particular independent variable, the resident characteristics. The primary statistical criterion is that partitions be chosen to maximize the prediction of the dependent variable, resource cost (Fetter et al., 1980).

In addition to AUTOGRP, we used statistical tools including discriminant and outlier analysis to identify alternative constructs that might be tested. Some variables that had good predictability, however, were not usable for case mix determination as they did not meet our administrative criteria or provided poor incentives. In some cases, we were able to find alternate variables that provided equivalent variance explanation. These methods were augmented by the suggestions derived interactively with the project's technical panel on new variables, alternative strategies for initial splits, and alternative interpretation of results.

Several dependent variables were used in the analysis. Initially, analysis of reported direct times by staff and the simple sum of these times led to the observation that residents with certain selected but not highly prevalent conditions received a much different mix of resources than their cohorts. The differences were often in the use of skilled nursing services, for example as provided by registered nurses. These findings were used to identify clinically homogeneous types of residents and proved useful in developing the clinical sense of the system.

Two composite dependent variables were used for the majority of the analysis: wage-weighted nursing staff time and wage-weighted times of nursing plus other professional staff. To develop staff costs, for each resident we first summed the times for three shifts for RN's, LPN's, and aides. Non-resident-centered times represented a significant portion of the time spent by all staff, ranging from 62 percent for RN's to 42 percent for aides (Table 1). These unit times were allocated to residents either proportionally to their staff time (for documentation and meetings) or equally to all unit residents (for ward maintenance, breaks, and meals). Times were wage-weighted using constants representing the facility-specific relative wage rate for each type of staff, then summed across types of staff. (We later found that virtually identical results would have been obtained by using statewide average wages.) The second dependent variable augmented the first with PT, OT, RT, and social service times, again wage-weighted.

Results

The variables that, by themselves, were most effective in explaining differences in resource use in the sample population are given in Table 2. In conformity with almost every study of nursing home resource use, the ADL's provided some of the highest

Table 2

Single variables with highest percent variance[1] explanation and number of groups

Variable	Percent explanation	Number of groups
Toileting[2]	32.4	4
Transfer[2]	31.6	6
Dressing[2]	31.5	4
Mobility[2]	29.5	4
Eating[2]	27.9	5
Personal hygiene[2]	26.8	4
Bed rails	23.6	3
Bladder control[2]	23.3	4
Bathing[2]	21.1	3
Bowel control[2]	19.9	3
Primary impediment to discharge	17.0	3
Motivation	15.8	4
Decubitus level	15.2	3
Frequency of medical doctor review of resident	15.0	3
Frequency of medical doctor assessment of resident	13.9	3
Diet	13.8	3
Refusal to care for self	13.0	2
Learning ability	11.2	3
Expressive in communication	11.1	3
Receptive in communication	10.2	3
Number of decubiti	8.5	2

[1]All other variables had variance explanation of less than 8.5 percent.
[2]Activities of daily living variable.

variance explanations. Alternately expressed, if one seeks a single characteristic of nursing home residents to understand the level of resources involved in their care, an ADL measure, and almost any one, would be the best choice. All nine ADL measures included in the data collection (from toileting to bowel control, excluding bed rails) were virtually exclusively the most explanatory variables (Table 2).

When we followed an algorithm of maximizing variance explanation in each choice of a variable, we began by differentiating residents on a single ADL, then taking another ADL to form secondary splits, then a third. Such a strategy led to many groups with substantially decreasing marginal variance explanation at each level; after three splits we observed almost no additional variance explanation. Thus, the ADL's are highly redundant. Once we knew three ADL's we knew as much regarding cost variation as if we knew all of them. Second, which three ADL's we picked did not demonstrably change the total variance reduction. Given such interchangeability, we were able to choose the ADL's that were the best on nonstatistical criteria, for example, those providing incentives for better care. Finally, we found that significant information was obtained by recognizing intermediate levels for ADL's rather than using them only dichotomously, for example, as in the Maryland case-mix system.

Activities of daily living measure

These results encouraged the development of a summary measure of functionality that would compactly represent the influence of all of the ADL's. We chose three ADL's that were less easily gamed, that were less affected by facility practice, and that provided incentives for quality of care. For example, eating is relatively difficult to game, given the time pressures on all staff at meal times. On the other hand, bathing was excluded because of the link, mentioned earlier, between bathing and facility practice. Toileting provided the opportunity to encourage better care by recognizing the additional resources needed to toilet rather than diaper an incontinent resident. The three ADL's chosen, toileting, eating, and transferring, were clinically judged to measure small and large motor skills as well as, implicitly, mental and physical functioning.

On the basis of variance explanation and clinical judgment, we determined that three levels would suffice for toileting and transfer with a fourth level (nasogastric tube feeding or parenteral feeding) for eating (Table 3). Considerable analysis of alternate formulation demonstrated that combining these three recoded ADL variables by simply adding their level scores resulted in an index that had a variance reduction of 35.4 percent, close to a computed optimal theoretic limit of 36.6 percent. The

Table 3

Construction of the resource utilization groups, version II (RUG-II) activities of daily living (ADL) index

Activity of daily living	Resident functioning level	ADL score
Toileting	Independent or minimal supervision and/or physical assistance	1
	Continuous supervision and/or physical assistance or total assistance or incontinent, does not use toilet	2
	Incontinent, taken to toilet on a regular schedule	3
Eating	Independent or minimal supervision and/or physical assistance	1
	Continuous supervision and/or physical assistance	2
	Hand fed	3
	Tube or parenteral feeding	4
Transfer[1]	Independent or minimal supervision and/or physical assistance	1
	Continuous supervision or continuous physical assistance of one person	2
	Continuous physical assistance of two persons or bedfast	3

Construction of RUG-II ADL index:

The ADL index (range 3 to 10) is formed by adding the scores for the three ADL variables above:

ADL index = Toileting + Eating + Transfer

For example, a resident who needs total assistance toileting, continuous supervision eating, and the physical assistance of one person while transferring would have an ADL index of 6.

[1]Bed, chair, standing.

construction of the RUG-II ADL index is outlined in Table 3.

In addition to the RUG-II ADL index, we reviewed other existing ADL systems. Three were selected for AUTOGRP analysis: ADL index (Katz, 1963), Maryland long-term care reimbursement index (Deane and Cella, 1981), and the Hebrew Rehabilitation Center for the Aged (HRCA) functional assessment tool (Hebrew Rehabilitation Center for the Aged, 1987). These systems produced variance reductions ranging from 29 percent to 31 percent, less than using some ADL's singularly. In the case of the Katz and Maryland scales, the use of dependent and independent categories, without intermediate levels, resulted in most of the residents being classified in the dependent category and in little variance being explained. The HRCA functional assessment tool used additional factors relating to mental and behavioral problems, and diagnoses. This construct, using these additional factors, had a variance explanation below that achieved employing only the ADL factors.

Using the ADL's and the RUG-II ADL index, and following a myopic policy of choosing at each step that variable with the highest variance reduction, led to classification systems with a total variance explanation of, at most, 40 percent. Most importantly, the resulting system was relatively clinically barren in that it was based totally on ADL characteristics. (When ADL's were used following this strategy, no non-ADL variable added significant variance explanation.) Interestingly, alternative approaches would prove superior.

Hierarchy of resident types

Simultaneous to these ADL development efforts, we labored with the technical panel to formulate a typology of nursing home residents. Two facts spurred our efforts. First, we believed that a case-mix system based strictly on ADL factors would not meet widespread clinical acceptance. Second, we observed in our analysis that the ADL measures alone were not capable of measuring the amounts of care by different types of staff needed by residents. We sought to create a typology that could be clinically meaningful and would facilitate communication and analysis of data among clinicians, policymakers, and health care administrators.

These major categories of residents were designed to capture broadly the essence of the types of residents cared for in SNF's and ICF's. The principal factor used to define these categories was clinical affinity. By this, we mean the residents in a category were to have much in common, although amount or severity of care were not used in the definition. Thus, we did not attempt clinically homogeneous groups at this level, but rather in the fuller system.

The major categories we developed were:

Heavy rehabilitation—Residents who receive heavy, daily physical or occupational therapy services with a treatment goal of restoration of functioning.

Special care—Very heavy-care residents, often with very low functional level, who have particular serious conditions such as coma or quadriplegia which primarily determine their care.

Clinically complex—Residents with particular medical or skilled nursing problems (e.g., hemiplegia, dehydration, terminally ill) or otherwise extensive medical needs. As a group, these residents are not as functionally impaired in ADL as the special care group.

Severe behavioral problems—Residents with high frequency and severe level of one or more of four behavioral problems: physical aggression, regression, verbal abuse, or hallucinations.

Reduced physical functions—This group includes all residents who do not qualify for any of the above four hierarchy groups; they are principally characterized by reduced levels of activities of daily living functioning.

The criteria that place residents into any of these groups are shown in Table 4. It should be noted that in addition to the classification criteria noted in Table 4, additional criteria are necessary to employ the system for payment purposes. Such additional criteria are designed to prevent gaming and to specify the documentation necessary to facilitate auditing.

This system of major categories is termed a "hierarchy" as each category was ranked by cost. Thus, residents could qualify for more than one hierarchic category but would be identified in the most resource-intensive one. Residents who had no characteristics to place them in the four highest groups were those in nursing homes mainly for reduced physical functions, the fifth, residual, and largest group.

Within each hierarchic category, more detailed subcategories were developed based on the results of cluster analysis and clinical insight. Almost uniformly, the ADL index provided subgroups with the best explanation of variance.

The principal motivation for the development of the hierarchy was to foster clinical richness and usefulness of the system across possible applications. Interestingly, the use of the hierarchy, followed by the ADL index, explained 53 percent of the variation in cost, compared with approximately 40 percent achieved when we followed a pattern of using sequentially the variables that provided the greatest variance reduction.

The increase in variance explanation was not a result of a high degree of variance explained by the factors used in the hierarchy. In fact, none of the hierarchic factors were among the top 25 factors in variance explanation. The entire hierarchy by itself explained only 17 percent of the cost variation. Thus the statistical strength of the hierarchy lies in its role of splitting the resident population into clinically similar groups, which then allows the ADL scale to categorize more effectively the resulting hierarchic groups. This interaction is an important attribute of the system.

Table 4

Criteria[1] for classifying residents into resource utilization groups, version II groups

Hierarchic groups	Criteria
Heavy rehabilitation	Either physical or occupation therapy time in excess of an average of 30 minutes per day, 5 days a week with a treatment goal of restoration of functioning.
Special care	Any of the following conditions: Comatose Nasogastric feeding Parenteral feeding Quadriplegia Multiple sclerosis Stage 4 decubiti Suctioning and ADL index of 5 or more
Clinically complex	Any of the following treatments: Oxygen therapy Wound/lesion care Chemotherapy Transfusion or any of the following diagnoses: Cerebral palsy Urinary tract infection Hemiplegia or any of the following conditions: Dehydration Internal bleeding Terminally ill Stasis ulcer or one or more physician visits per week or residents in the special care category with ADL index of 3 or 4
Severe behavioral problem	Any of the following problems at the severe level: Physical aggression Verbal abuse Regressive behavior Hallucinations
Reduced physical functions	Those not classified in any of the above.

[1]In addition to these classification criteria, additional criteria are used in the New York State Medicaid payment system to prevent gaming, provide guidelines for documentation, and assist in auditing.

Resource utilization groups classification system

The RUG-II classification system integrates the two basic approaches described previously. Groups are determined by first locating residents within the clinical hierarchy, then placing them into individual RUG's within that category by using ranges of the ADL index. In total, the system consists of 16 mutually exclusive groups, shown in Figure 1. The first two RUG-II groups consist of residents in the heavy rehabilitation category. The first RUG-II group, denoted "RA" (heavy rehabilitation-A), contains all residents who receive significant rehabilitation services (with a restorative goal) and a RUG-II ADL index value of either 3 or 4. A second group, denoted "RB" (heavy rehabilitation-B), consists of the remainder of the residents in the heavy rehabilitation category, those with ADL index scores from 5 to 10. The other groups are similarly specified. The 16 RUG-II groups and their abbreviations are shown in Table 5. A resident falls into one and only one group.

It is important to understand that the RUG's system employs only a limited number of characteristics to classify residents. Although clinical description of a resident would require a fuller appraisal, with the correlations inherent between characteristics, the presence of a single attribute of a resident is an "indicator" of a spectrum of others. For example, if residents are independent in the three ADL's involved in the index, they are unlikely to require significant amounts of extra resources even if they are not totally independent in the remaining ADL's such as bathing, mobility, personal hygiene, are mentally confused in the nursing home environment, etc. Thus, this type of system provides a parsimonious approach to resident classification. In total, 12 individual items need to be assessed to classify residents into RUG-II groups.

In New York State nursing homes, the vast majority of residents, almost 70 percent, fall into the hierarchic category of reduced physical functions (Figure 2). Here, two RUG-II groups (PA and PC) each represent more than 25 percent of the residents; the former residents are most often seen in ICF's, the latter most frequently in SNF's.

The RUG-II ADL index had high explanatory power for the reduced physical functions group. This high explanatory power in the most populous set of groups confirms and explains the phenomenon of high variance explanation of ADL's for all nursing home residents seen in all other studies. The other 11 RUG-II groups provide the special characteristics that identify much smaller percentages of residents, but ones that need to be identified within a payment system for their extremely high costs of care.

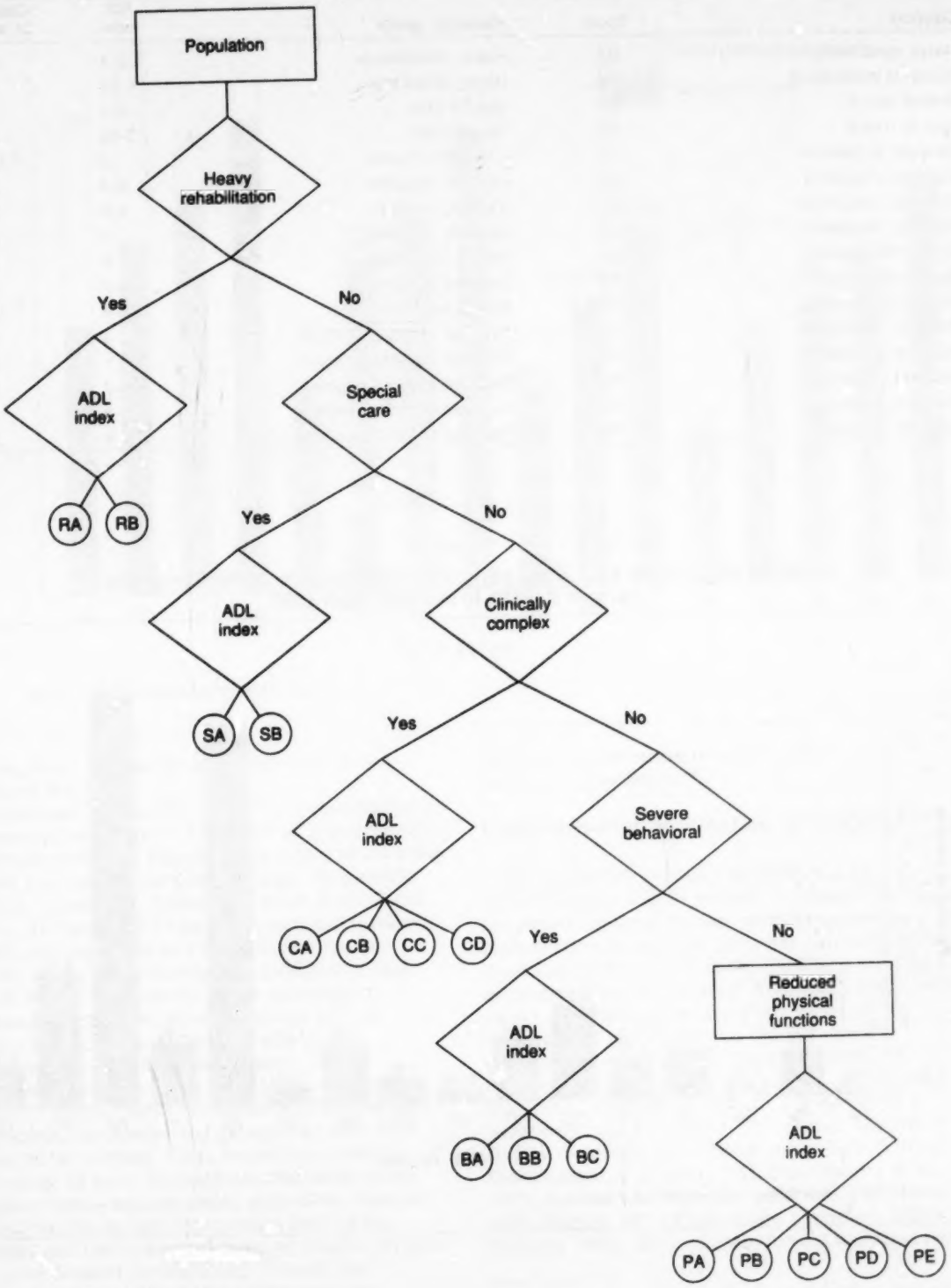
Case-mix index

The case-mix index (CMI) for a group in a classification system is the relative weight of resource use of this group to some base resource use level. The base level for scaling the resource use of the RUG-II groups is arbitrarily set at the average resource use across all groups. Thus, the case-mix index for a group represented the relative cost of caring for the average resident in that group, compared with the average resident in the population.

We chose to develop a single case-mix index representing the relative cost of nursing plus other professional services (physical, occupational and recreational therapy, and social service) for each of the RUG-II groups. The analysis adjusted the costs for other professional services so that they were computed on the same basis as nursing services, including the time of assistants and aides working with these professionals and the time each professional spent in activities other than direct care

Figure 1

Resource utilization groups, version II (RUG-II) classification system



NOTE: Table 4 provides classification criteria, and Table 5 provides the key for RUG-II groups.

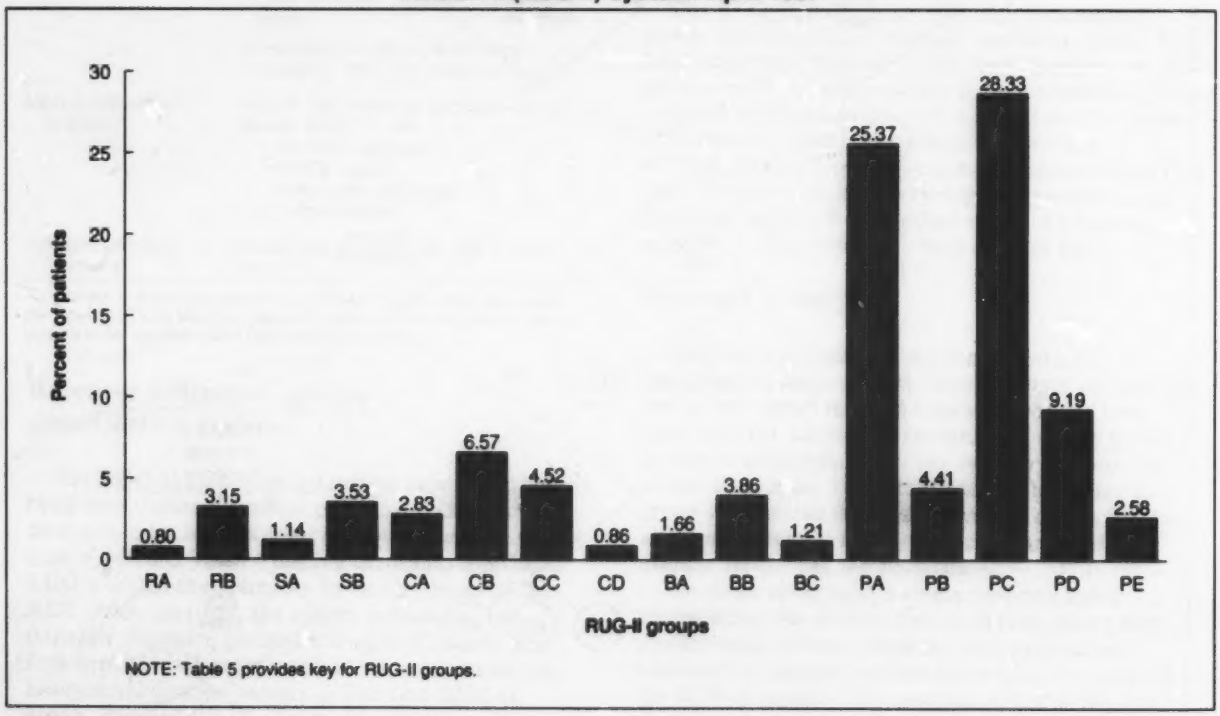
Table 5

Resource utilization groups, version II resident categories, by code, hierarchic group, and activities of daily living (ADL) index, with coefficient of variation

Category	Code	Hierarchic group	ADL index	Coefficient of variation
Heavy rehabilitation-A	RA	Heavy rehabilitation	3–4	.25
Heavy rehabilitation-B	RB	Heavy rehabilitation	5–10	.31
Special care-A	SA	Special care	5–7	.33
Special care-B	SB	Special care	8–10	.30
Clinically complex-A	CA	Clinically complex	3	.48
Clinically complex-B	CB	Clinically complex	4–6	.29
Clinically complex-C	CC	Clinically complex	7–8	.29
Clinically complex-D	CD	Clinically complex	9	.24
Severe behavioral-A	BA	Severe behavioral	3	.49
Severe behavioral-B	BB	Severe behavioral	4–7	.27
Severe behavioral-C	BC	Severe behavioral	8–9	.23
Reduced physical-A	PA	Reduced physical functions	3	.44
Reduced physical-B	PB	Reduced physical functions	4	.34
Reduced physical-C	PC	Reduced physical functions	5–7	.27
Reduced physical-D	PD	Reduced physical functions	8	.24
Reduced physical-E	PE	Reduced physical functions	9	.21

Figure 2

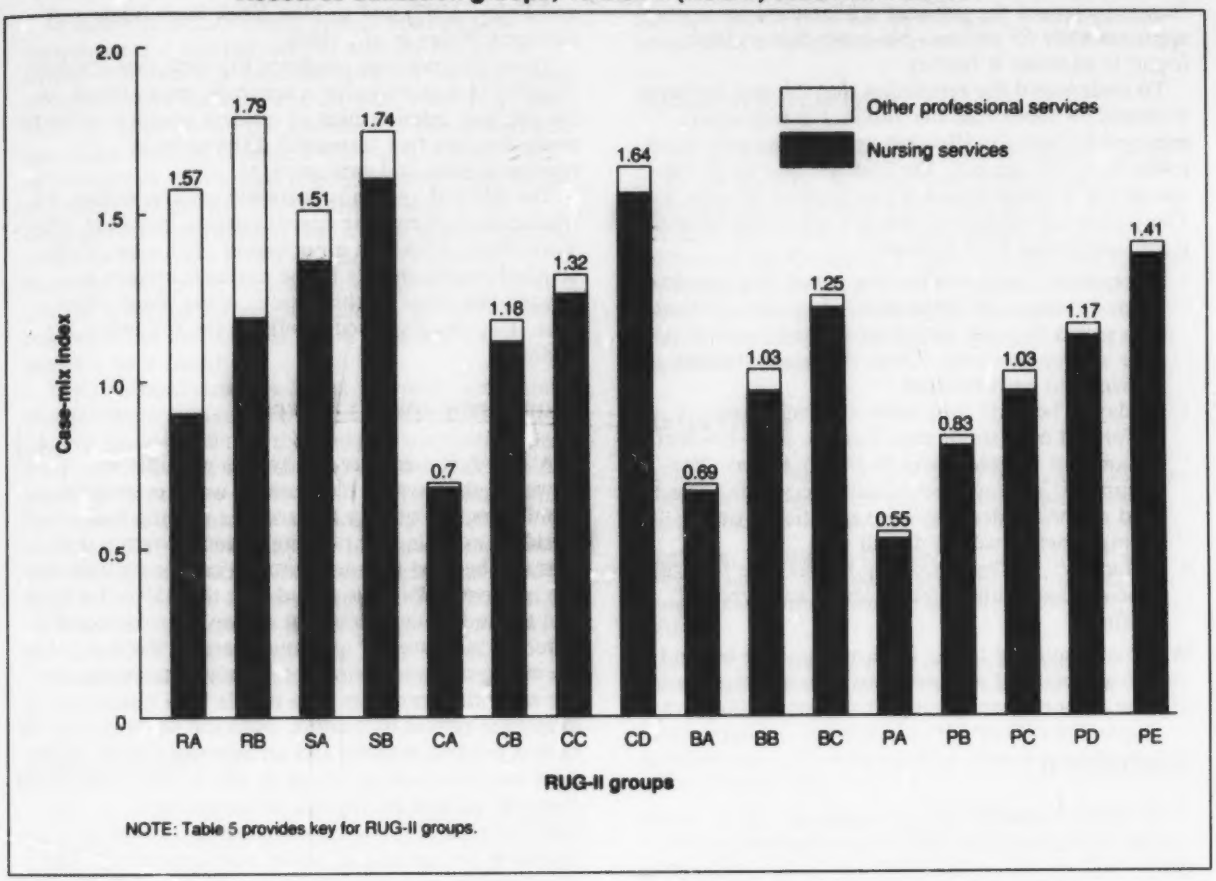
Distribution of New York State patients in the resource utilization groups, version II (RUG-II) system: April 1987



NOTE: Table 5 provides key for RUG-II groups.

Figure 3

Resource utilization groups, version II (RUG-II) case-mix indexes



NOTE: Table 5 provides key for RUG-II groups.

of the resident, such as for administrative duties, training of staff, etc.

The case-mix indexes for the RUG-II classifications are presented in Figure 3. The order of groups in this figure follows that of Figure 1. The height of each bar represents the composite CMI, and the components represent, separately, nursing and other professional services. The majority of other professional services are seen, appropriately and by construction, for residents in the two rehabilitation groups (RA and RB). However, there are therapies provided to residents in each of the other groups as well, so payment for these groups would include reimbursement for rehabilitation care.

The highest-cost group in the RUG-II system (RB) requires 79 percent more resources than the average-cost resident, the lowest-cost group (PA) only 55 percent of the average. Thus, we see more than a 3-to-1 range of costs for residents that under many payment systems are considered equivalent. Each of the five bundles of bars represents a level of the hierarchy and the downward trend of relative resource cost as we descend the hierarchy. Overall, the observable "saw-tooth" pattern represents the increasing cost within hierarchic categories associated with increased ADL dependencies. For the same ADL index value, the case-mix index is lower as the hierarchy is descended.[2]

Understanding explanation of variance

The variability in total cost explained by the RUG-II system was 53 percent. Although this exceeds the results reported for any other long-term care classification system and compares favorably with acute care systems such as the DRG's, it remains a question: How good is this? Alternately stated, what causes the remaining unexplained variance? To investigate if factors beyond resident-specific information explained additional variance, we incorporated facility type (SNF, ICF), sponsorship (voluntary, proprietary, public), region (seven geographic regions in New York State), and size of facility (Schlenker and Shaughnessy, 1984; Schlenker, Shaughnessy, and Yslas, 1983; Shaughnessy et al., 1985; Sulvetta and Holahan, 1986; Liu and Mossey, 1980; Bishop, 1980; Caswell and Cleverley, 1983; Meiners, 1982). Each of these factors increased our

[2]The one exception to this is residents with ADL index 9 in the BC group who had a higher case-mix index than those in the PE group, a rare exception and likely an anomaly.

understanding of cost variations, with type and sponsorship the most dominant. Together, these factors increased the variance explanation to approximately 65 percent. No other factors were found to increase it further.

To understand the remaining one-third of variance, it should be noted that the variance explanation achieved by any classification system is clearly much lower than 100 percent. The statistic quoted in this research is a computation at the resident-specific level. The additional variations that are not explainable at the classification level include:

- By resident: Each resident has many characteristics beyond those used in the RUG-II system, clinical differences that can and should be recognized in their appropriate care. Thus, there is variability that is unique to each resident.
- By day: The staff time measurements were performed on a single day. For the same resident, the amount of care varies from day to day. For example, if residents get a bath every 3 days, one-third of the residents will use significant time getting a bath, two-thirds will not.
- By facility: Different nursing homes care for the same resident with differing levels and types of staffing.

When accumulated to the level of a unit or beyond that to a facility of any size, the variance explanation of total resource use increases to close to 100 percent.

Discussion

We believe that our overall approach led to a system that is superior both in its capability to differentiate types of residents and in its applicability to nursing home payment.

Although developed in New York, the robustness and versatility of the RUG-II system has been demonstrated in other States and in care settings outside of nursing homes. In the State of Texas, a similar nursing home study validated both the system and the case-mix indexes (Coleman, 1988). Similar studies have been performed in the Veterans' Administration (Schaeffer, 1986), which is currently using the RUG-II system nationwide for resource allocation.

The long-term care systems of Texas and New York may be representative of the two extremes of a scale. Texas has one of the lower staffing levels per resident and New York has one of the highest. Despite this wide difference, the RUG-II classification was discriminatory between residents with high resource needs and use and those with low resource needs and use in both States. The case-mix indices (a relative-cost scale) computed from data in each State were approximately equal for each category even though the number of staff hours represented by the index was significantly different.

The robustness of the RUG-II classification has also been demonstrated in two other studies we have performed, which apply the system both to a national sample of Medicare SNF residents (Fries, Schneider, and Foley, 1987) and to New York State home care residents (Foley et al., 1986).

These observations reinforce the view that resident classification is primarily a scientific issue, based on the intrinsic relationships of resident characteristics to needs for care that transcend differences in reimbursement and care patterns.

The RUG-II system is currently used in setting the Medicaid payment rate for all nursing homes in New York State. Although a discussion of the use of the RUG-II measurements in the payment system is beyond the scope of this article, it has many other uses. Two are discussed briefly in the following sections.

Monitoring quality of care

A case-mix measurement system provides a powerful data system that can be used to assist in monitoring the quality of care in a nursing home. Resident assessment or billing systems contain data that can be used to track automatically outcomes for the residents. We have found that the RUG-II system and the individual items that define it provide useful outcome measures of quality of care. A facility, while providing documentation for payment purposes, at the same time provides data usable by a quality assurance system to monitor outcome performance on both a resident-specific and an aggregate level. Such dual use puts nursing homes at risk if they over-report case-mix criteria (at the risk of indicating inappropriate care) or they under-report quality problems (at the risk of losing reimbursement). The development of a monitoring system can include many types of review: aggregate case-mix index changes at the facility level; longitudinal outcomes at the case-mix group level; longitudinal outcomes at the resident-specific level; and incidence of poor outcomes.

Case-mix measurement can thus address the basic objectives of a quality assurance system to find poor quality care and can make this process more efficient through computerized automation. Specifically, a case-mix data base can be used to generate by computer a variety of reports employable within a quality assurance system, including incidence of specific outcomes (e.g., decubitus ulcers, tube feeding); comparisons of a facility with others, or a longitudinal view of a single facility across time; lists of targeted residents to be reviewed during the on-site quality assurance review; or menu of activities to focus reviewers on potential problem areas in the facility.

The type of system described above is currently being developed at Rensselaer Polytechnic Institute and the New York State Department of Health under a HCFA grant. The resulting system, termed the New York Quality Assurance System (NYQAS), was implemented in Fall 1988.

Nursing home management

A case-mix measurement system enables new management opportunities for nursing homes. In States with case-mix payment systems, nursing home administrators can now change both their costs and their revenues within the structure of the system and can relate costs to revenues. Case mix creates these opportunities, but it also engenders new needs in the provider community. One of these needs is for management information that can be used to predict revenues and costs under the case-mix system. Another need is for increased management skills to use the information available and to recognize the opportunities and pitfalls that a case-mix system presents to a facility.

Even without case-mix-based payment, a case-mix measurement system creates increased awareness by facility management of the types of residents under their care. Management can now relate their facility's capacity to provide service (such as rehabilitation therapies) to the cost for this capacity and the revenues that this capacity can produce. Case mix provides a better match between the revenues and the costs of caring for a given resident mix. This match provides an opportunity for management to increase the quality of care in a nursing home by using revenues to augment the number and skill-mix of staff giving care.

Conclusions

The development of the RUG-II system was guided by clinical, statistical, and administrative criteria. An important conclusion of the research was that synergy existed between these criteria. The addition of clinical insight significantly improves the variance explanation of the resulting classification system beyond that developed through statistical methods alone.

The analysis supports the finding of previous research that ADL's are major explanatory factors in resource use. However, a classification based on ADL's would clinically be relatively barren and thus would likely not find clinical acceptance. The RUG-II system utilizes a clinical hierarchy of five types of residents (heavy rehabilitation, special care, clinically complex, severe behavioral problems, and reduced physical functions). A second component is a summarization of the ADL's into an index based on toileting, eating, and transfer. Together, these produce a system of 16 relatively homogeneous groups of nursing home residents.

The RUG-II system was developed for and is currently being used to pay all New York State nursing homes under Medicaid, as well as being employed by the Veterans' Administration.

The development of methods to measure and predict the resources used for caring for different types of nursing home residents provides the metric needed to address a variety of opportunities at both the governmental and provider level. Some caution is needed as well. Case-mix measurement has been promoted by some as solving the plethora of problems identifiable in long-term care. It provides solutions to perhaps only a few, but in doing so, makes needed progress in a complicated arena.

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Case management for long-term and acute medical care

by John A. Capitman

Case management has developed as an administrative service for controlling costs and improving the quality of health and social service delivery. Long-term care case management combined with service expansion has been examined in some detail with varied results. Less research has focused on case management for users of high-cost medical care. This overview highlights five programs and patient groups where integrated delivery and/or financing of medical and long-term care services are being demonstrated and where new roles for case management may be indicated.

Introduction

Case management has been defined as an administrative service that directs client movement through a series of phased involvements with the health and social service delivery system with the goal of increasing the quality and cost effectiveness of care (Capitman, Haskins, and Bernstein, 1986). Case management (CM) programs have been embedded in diverse delivery systems, serving a variety of populations including long-term care users, users of high-cost medical care, and mental health or substance abuse program participants. The five articles presented in this section discuss new CM approaches in the context of long-term care for Medicare beneficiaries and users of high-cost medical care.

General assessment of CM program impacts has been complicated both by the variety of applications of the concept and inconsistent language. The terms "case management," "care management," and "care coordination" have been used to describe mechanisms for utilization and cost control such as preadmission certification, second surgical opinion, or physician gatekeeper programs. These mechanisms may be components of CM systems and some, such as second surgical opinion, have received considerable attention. But the comprehensive models discussed in the five articles in this section involve more than strategies to track utilization and control access to care (Henderson et al., 1988). Both medical and long-term care CM programs usually contain at least the following components: intake/eligibility determination, needs assessment, care planning, service arrangement, monitoring, and termination planning (Capitman, 1986; Henderson, Souder, and Bergman, 1987; Merrill, 1985).

Although some analysts suggest that CM programs should be promulgated because of their potential influence on the quality of life experienced by clients, most research has viewed CM programs in the context of increasing the cost effectiveness of appropriate and coordinated health and long-term services. From this latter perspective, two issues have dominated discussions of CM programs in both acute medical and long-term care applications. First, in order to have an impact on the quality and cost effectiveness of care, CM programs must be targeted to individuals whose patterns of care can be influenced. CM researchers continue to explore alternative approaches to identification of appropriate target groups. Second, because CM is a relatively new service, there are broad variations in staffing and task configurations, clinical procedures, scope of authority, and other major program design features. Understanding the implications of these differences among CM approaches remains a major focus of research and demonstration efforts.

Long-term care

Long-term care CM has received considerable attention in the context of the Medicare and Medicaid demonstrations of Coordinated Community-Oriented Long-Term Care, the National Long-Term Care Channeling Demonstration, the Medicaid Home and Community-Based Care programs, and other efforts (Capitman, 1986; Kemper, Applebaum, and Harrigan, 1987; Yeatts, Capitman, and Steinhardt, 1987; Capitman, Arling, and Bowling, 1987). The demonstrations varied considerably in terms of goals, target group definitions, sponsoring organizations, and host community characteristics. CM approaches varied as well from the perspectives of staffing, operational structure, and costs. Yet in all of these programs, CM was combined with some expansion of public financing for community-based long-term care, with the goal of reducing public cost and improving the responsiveness and appropriateness of care through substitution of community care for nursing home, hospital, and skilled home health services.

Many of these studies find it difficult to identify chronically ill and functionally disabled elders for whom the provision of CM and expanded services results in reduced use of currently covered nursing home, acute medical, or home health services. As a result of the failure in most studies to show substitution or diversion impacts, cost effectiveness is rarely demonstrated. The two exceptions appear to be programs that used preadmission screening of Medicaid patients seeking entry to a nursing home as the intake/eligibility process for CM and expanded services, and programs that combined State Medicaid nursing home admissions criteria for targeting CM with hospital-based transitional care programs or consolidated delivery systems. Results on mortality,

Reprint requests: John A. Capitman, Ph.D., Director of Long-Term Care, Bigel Institute for Health Policy, Heller Graduate School, Brandeis University, Waltham, Massachusetts 02254-9110.

morbidity, satisfaction with care, and other potential measures of quality enhancements resulting from CM have been generally favorable, but are neither consistent nor conclusive. These findings suggest that tightly targeted CM programs, offered in the context of other clinical, management, and financing reforms, can meet the objectives for which they were implemented.

Based on these findings, the focus of research and demonstration efforts related to long-term care CM has shifted. There is ongoing interest in Medicaid 2176 home- and community-based care programs that attempt to use CM and expanded services as substitutes for nursing home care. At the same time, there is a new recognition of the financial burdens of long-term care on the elderly and of their preference for coordinated provision of medical and long-term care. Integrated health and social service delivery and financing approaches based on capitation payments to comprehensive providers are viewed as one set of strategies. Two of the articles included in this section discuss CM in the context of such integrated delivery systems.

Early evaluation findings about the roles and operations of CM in the social health maintenance organization demonstration are discussed by Yordi. In this demonstration, a broad cross-section of elders is offered a service package including traditional Medicare benefits and a broad array of institutional and community long-term care services. The long-term care benefits are limited in duration and quantity, and CM functions include control of this benefit and coordination of the linkages between acute medical and long-term care. Zawadski and Eng discuss CM approaches in the Community Care Organization for Dependent Adults as developed by On Lok Senior Health Services. At On Lok, and at the planned replication sites, comprehensive health and long-term care are provided to elders who qualify for nursing home care. CM approaches are notably different in this model, because the program is both provider and manager of most care.

Case management in medical care

Far less attention has been focused on the techniques or impacts of medical care CM programs, and experimental analyses of cost effectiveness are not available. There is, however, considerable evidence that, within a population, large proportions of total medical costs are associated with high levels of use by a small minority (Zook and Moore, 1980). Among Medicare beneficiaries, there is some evidence that catastrophic levels of use are more prevalent with particular diagnostic patterns and associated hospital readmissions (Gooding and Jette, 1985).

There are clear gaps, however, in our understanding of the determinants of high-cost use of medical care by elders or the relationships between this use and the need for long-term care services. There is little basis then for targeting medical case management tosubgroups among the elderly, or for linking acute and long-term care management programs. Eggert argues that CM approaches and service expansions developed in the context of long-term care programs can be targeted to elders who are high-cost users of hospital care by focusing on three subgroups: nursing home residents with acute exacerbations of chronic illness, elders admitted to hospitals from the emergency room, and elders with a prior history of extremely high levels of medical care use.

Similarly, for other age groups there is evidence that extremely high-cost use of medical care is associated with specific medical conditions, such as acquired immunodeficiency syndrome (AIDS), certain cancers, and spinal cord injuries. However, the potential for increasing quality and cost effectiveness of care by targeting CM and changes in third-party coverage to particular users is only now receiving research attention. For example, Section 425 of the Medicare Catastrophic Coverage Act of 1988 calls for four large-scale demonstration and research projects examining different CM models targeted to Medicare beneficiaries with selected catastrophic illnesses.

Some of the CM design features that may be required for these Medicare users with catastrophic costs are suggested in the article describing CM in the context of private insurance. Henderson points to program features such as service substitution and other changes in the scope and duration of particular benefits. It is also noteworthy that it may be easier to demonstrate CM impacts on the coordination and acceptability of services than on total costs of care, even with more tightly targeted approaches.

The variety of CM approaches that may both be needed and developed for high-cost medical users is also described in Benjamin's article on CM for AIDS patients. At different stages in the progress of the disease, AIDS patients may require coordination of medical care, mental health services, or long-term care services, as well as assistance in accessing other public and private benefits. Benjamin notes that CM programs ranging from very formal and tightly targeted to informal and highly idiosyncratic have emerged in San Francisco to meet these diverse needs. These systems may evolve in the direction of greater formality as the patient group grows and there is increased appreciation for the role of CM in management of transitions in medical and other service needs.

The articles presented together suggest some of the major areas for potential cross-fertilization between demonstrations of long-term and medical CM programs targeted to other populations. In particular, two important challenges for CM programs and research are stressed: how best to coordinate medical care delivery and long-term care delivery in diverse populations, and how best to allocate both CM services and other service enhancements or substitutions as client needs change.

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The need for special interventions for multiple hospital admission patients

by Gerald M. Eggert and Bruce Friedman

Although a high proportion of Medicare hospital admissions and expenditures are accounted for by a small proportion of the elderly who experience chronic patterns of acute hospital use, little emphasis has been placed on reducing hospitalization among these high users. Five interventions that have succeeded in substantially reducing the number of hospital days among high users living at home are discussed in this article, as are several interventions that have reduced hospital use by nursing home residents. With the passage of the Medicare Catastrophic Coverage Act of 1988, research and demonstration activities for high users of hospital care will, for the first time, have a Federal focus.

Introduction

Previous attempts to use special interventions (e.g., case management, payment for additional community-based services under Medicare and Medicaid) to reduce health care expenditures have, in general, failed to achieve desired cost savings. Most of these earlier efforts have focused on patients believed to be at high risk of using nursing home services. Interventions targeted at other groups of patients who are at high risk of incurring high-cost episodes of health care should provide greater opportunities for cost savings. One such group is patients at risk of repeated hospital admissions.

More than 30 years ago, Roemer, Myers, and their associates first discovered that a small number of hospital patients experience multiple admissions over time (Roth et al., 1955; Roemer and Myers, 1956). They found that chronic illness was strongly associated with multiple admissions and recommended that cost containment "efforts should be concentrated on these hospital repeaters" (Roemer and Myers, 1956).

Since that time, a number of other studies have recognized the existence of multiple-admission patients and the fact that these patients account for a disproportionately high share of hospital utilization and expenditures. Pareto's Law, the principle that a small amount of people account for a disproportionate amount of activity, applies to Medicare hospital utilization and expenditures. This article reviews the phenomenon of multiple-admission patients and discusses why special interventions might be effective in reducing the number of hospital days and expenditures among Medicare patients who are repeatedly hospitalized. Finally, recommendations are given for research and demonstration programs.

Early studies

Roth et al. (1955) first identified the phenomenon of multiple hospital admissions experienced by a small proportion of hospital patients. Seventeen percent of admissions in low hospitalization areas and 28 percent of admissions in high hospitalization areas in Saskatchewan in 1952 were repeat admissions of patients previously admitted during that year. Roemer and Myers (1956) followed up this study with an analysis of all hospital admissions of men in Saskatchewan in 1954 who also had one or more hospital stays during the years 1950-53. Eighty-seven percent of the hospital days utilized by this group over the 5-year period were accounted for by 60 percent of the 1954 patients. The other 40 percent used only 13 percent of the hospital days. The multiple-admission patients averaged 54 hospital days over the 5 years. Roemer and Myers also found that the pattern of hospitalizations for the 1954 patients whose most recent hospital admission was for an acute condition was considerably different from that for patients for whom the admission was because of a chronic illness. Although less than one-half of patients whose last admission was for an acute illness experienced more than two admissions during the 5-year period, two-thirds of patients whose most recent admission was for a chronic condition had more than two hospitalizations.

Roemer and Myers (1956) recommended special interventions for these chronically ill multiple-admission patients. "The epidemiological significance of these findings is easy enough to state, but extremely difficult to apply. It means that if we wish to make inroads on the causes of high hospital utilization, and large hospital expenditures, efforts should be concentrated on these hospital repeaters. It means more and more attention required on the effective management in the home and office of the chronic, degenerative diseases" (Roemer and Myers, 1956).

Chronic illness and ambiplex patients

Schroeder, Showstack, and Roberts (1979) and Zook and Moore (1980) analyzed and described hospital patients by level of expenditure. Both studies found that high-cost utilizers are more likely to be persons with chronic health problems who experience multiple admissions over time. Specifically, Zook and Moore found that repeated hospitalizations for the same disease accounted for 50-90 percent of the

Reprint requests: Gerald M. Eggert, Monroe County Long-Term Care Program, Inc., Piano Works, Suite 2250, 349 W. Commercial Street, East Rochester, New York 14445.

highest-cost 10 percent of patients among 6 populations treated at 5 hospitals during a 10-year period. In a later paper, the study's authors concluded that "high-cost illness is most often longitudinal in nature, comprising a series of treatments and hospital episodes over time rather than one medical emergency" (Zook, Moore, and Zeckhauser, 1981). Although the care for hospital patients with a single cost-intensive illness or a single prolonged hospitalization was very expensive, neither of these was as costly as the care of patients who experienced multiple admissions for the same illness (Zook, Moore, and Zeckhauser, 1981).

Significantly, many elderly people have not just one illness but several chronic illnesses and conditions. When they are admitted to the hospital, they may have a number of comorbidities. A patient may have one principal diagnosis for one admission and a different principal diagnosis for the next. Many of these patients are experiencing multiple systems failure.

Gavett et al. (1985) at Strong Memorial Hospital in Rochester have identified and labeled a new class of patients—ambiplex patients—who are characterized by ambiguity and complexity of diagnosis and treatment. They are "complex by virtue of the multiplicity of their problems and ambiguous because there is no conventional definition or focus for their illness" (Gavett et al., 1985).

They state further that, "the criteria of ambiplex include a set of co-morbidities that are not necessarily interrelated, multiple hospitalizations in terms of admissions, within-admission transfers (encounters) among different clinical services, and long hospitalizations. Patients are likely to be older. The medical problems are largely independent such that intervention to treat one problem simply shifts another to primacy. The prognosis for an overall satisfactory outcome is poor and the likelihood of death, within a relatively short term, is high. The hospital charges for this group of patients are also likely to be high.

"By the time the high cost ambiplex patient is identified his/her prognosis for further useful and enjoyable existence is poor. Although readmission may occur, these are followed by exacerbations. Once ambiplex patients have achieved the status of 'high cost' there is a likelihood of death within a year or two. Therapy of one disorder has scant beneficial influence on the co-morbidities, and multiple therapies often create iatrogenic complications. These patients pursue a course of recurrent hospitalization, often on a succession of different clinical services with care orchestrated by a host of physicians and surgeons" (Gavett et al., 1985).

Multiple-admission Medicare patients

Guralnick and Resnic (1974) first identified the phenomenon of multiple-admission patients among the Medicare population. They found that almost one-half (46 percent) of all Medicare hospital discharges in 1967 were attributed to patients who were discharged more than once.

Gornick (1977) took this research several steps further by using Medicare data for a 2-year period (1972-73), identifying the intervals between hospital stays, examining causes of hospitalization, and comparing hospitalizations for 10 diagnoses among the States with the highest and lowest proportions of multiple-admission patients. She found that multiple admissions were more prevalent among Medicare patients with chronic, as opposed to acute self-limited, diseases. She also suggested that "[a]n urgent need exists for research . . . to explore ways of changing some of the patterns of delivering services."

Anderson and Steinberg (1984) took the analysis of Medicare multiple-admission patients a few steps further by examining 4 years of data, as well as looking at expenditures. They found that, from 1974 to 1977, 2.6 percent of the Medicare population experienced more than 5 discharges and accounted for 20 percent of Medicare inpatient hospital expenditures; 12.5 percent, who experienced at least 3 hospital discharges, accounted for 58 percent of expenditures.

Gruenberg and Tompkins (1985) found that among Medicare eligibles who remained alive during the 3-year period 1975-77, 19 percent experienced 2 or more discharges, 22 percent were discharged once, and 58 percent were never hospitalized (Table 1). They also estimated the probability of Medicare patients being "chronic" or "nonchronic" users of inpatient hospital care. "Chronic users" are patients who are chronically ill and have a high probability of

Table 1

Frequency distribution of hospital discharges for live persons 67 years of age or over: 1975-77

Item	Number of discharges												
	0	1	2	3	4	5	6	7	8	9	10	11	12+
Number of people	2,253	848	347	169	83	50	18	17	7	6	3	2	2
Percent of total people	58.2	22.3	9.1	4.4	2.2	1.3	0.5	0.4	0.2	0.2	0.1	0.1	0.1

NOTE: Total number of people = 3,805. The total percent of people experiencing 2 or more discharges is 18.6 percent.

SOURCE: (Gruenberg and Tompkins, 1985).

experiencing multiple hospital admissions over time. "Nonchronic users" are people who are generally well and are hospitalized only for acute, self-limiting conditions. The assumption was made that all persons with zero or one hospitalization over the 3-year period were nonchronic users. The Poisson distribution was then used to estimate the expected number of hospital discharges of nonchronic patients. This distribution was used because it is reasonable to expect that hospitalizations of nonchronic users will be reasonably independent and that the probability of a hospital admission occurring will be "directly proportional to the length of time of observation" (Gruenberg and Tompkins, 1985). The number of chronic users was calculated by subtracting the actual number of nonchronic users from the total of chronic and nonchronic patients. Proportions were then calculated using these figures. Gruenberg and Tompkins estimated that 54 percent of patients with 2 discharges and 88, 98, and 100 percent of patients with 3, 4, or 5 or more discharges, respectively, over the 3-year period were chronic users. The 14 percent of all Medicare enrollees who comprised the chronic group of multiple-admission survivors utilized 45 percent of total Medicare expenditures in 1977.

More recently, Riley et al. (1986) examined the issue of whether Medicare expenditures have become more concentrated among the small proportion of heavy users over time. They found that expenditure distribution was very stable for the 3 years examined (1969, 1975, and 1982). In each of the 3 years, which occurred in 3 different decades, a small proportion of patients accounted for a large percentage of expenditures. In 1982, 4 percent of enrollees accounted for 48 percent of total Medicare expenditures, averaging $17,897 per person. The top 2 percent of enrollees averaged $23,818 per capita. The persistence of this pattern over time is important, because a strategy of special interventions makes sense only if there will continue to be a high-utilizer population.

The third of the three patient groups identified by Gruenberg and Tompkins is the nonsurvivors. A number of studies have found health care expenditures to be considerably higher during the last few years of life (Scitovsky, 1984; Lubitz and Prihoda, 1984; McCall, 1984; Roos, Montgomery, and Roos, 1987). This phenomenon is closely related to the "concept of predeath" identified by Isaacs et al., (1971), a state of ill health that exists for a somewhat lengthy period of time prior to death. The presence of the predeath state presumably distinguishes the high-utilizer nonsurvivors from the non-high-utilizer nonsurvivors, people who die suddenly and without great cost to the health care system.

Regression toward the mean

An important and controversial area of concern regarding high utilizers involves regression toward the mean, the tendency of people who are high or low users of health care in a given year to move toward average use over time. Whether regression toward the mean occurs and, if it occurs, the degree to which it takes place, occupies a pivotal position regarding special interventions for high-cost patients. If high-cost cases regress greatly toward the average in a short period of time, special interventions have limited opportunity to reduce health care expenditures.

There is lack of agreement regarding regression toward the mean and the degree of persistence of use by high users of health care. What appears to one researcher as persistence of a substantial number or proportion of high utilizers over time may appear to another to be regression toward the mean. There is also lack of agreement regarding what level of change constitutes regression toward the mean as well as the minimum threshold to define high utilizers.

Several studies have found that only a small proportion of elderly high utilizers in a given year are also high users the following year or years. McCall and Wai's (1983) examination of the Medicare population in Colorado found that only 18 percent of high users of inpatient hospital care (75th percentile of inpatient days and over) were also high users the next year. Anderson and Knickman (1984) investigated a random sample of 205,000 Medicare beneficiaries alive throughout the period 1974-77. Only 10 percent of the highest utilizer group (more than $10,000 in expenditures) during the first year were also high users in the second. In Manitoba, Canada, Shapiro and Roos (1986) found that among 195 elderly high utilizers of hospital days in a given year (31 or more days), 13 percent were high users in 2 of the next 6 years, and an additional 8 percent were high utilizers at least 3 of the next 6 years.

A few other studies have concluded that significant regression toward the mean occurs among Medicare high utilizers. In analyzing Anderson and Knickman's (1984) data, Welch (1985) found that the high users (in this case those with more than $5,000 in expenditures in the first year) regressed from 1,645 percent above the mean in 1974 to 298, 230, and 178 percent above the mean during each of the next 3 years, respectively. Lubitz, Beebe, and Riley (1985) also found very large regression toward the mean among high-cost Medicare enrollees age 65 or over. The average expenditure of the highest cost group in 1974 ($690 per capita, 168 percent of the mean) regressed to 121 percent of the mean in 1975, 113 percent in 1976, and 108 percent in 1980.

On the other hand, a number of studies have reported that patterns of high use persist over time for a substantial number of high users. These studies include most of the hospital and Medicare studies cited above as well as research on health maintenance organization (HMO) enrollees (Densen, Shapiro, and Einhorn, 1959; Mullooly and Freeborn, 1979; McFarland et al., 1985; Freeborn et al., 1987). McFarland et al. (1985) determined that, for Kaiser Portland enrollees, "[e]ach consecutive year of high utilization increases one's chances of remaining a high user in the subsequent year." They calculated that an

individual with two consecutive high-use years had a 65-percent probability of remaining a high user the third year. A person with 3 years of high use had a 70-percent chance of being a high utilizer in the fourth year. Anderson and Knickman (1984) determined that the probability of high utilizers being high users the following year was 20 times the probability of non-high users becoming high utilizers the subsequent year. This probability declined only slightly the following 2 years. Therefore, it appears that although most high-cost users regress toward the mean, a substantial minority remain high-cost users.

The most recent study regarding regression toward the mean was conducted by Beebe (1988) using a 7-year period (1974-80) of the Continuous Medicare History Sample. This examination is more discriminating than the prior studies, because it analyzes regression toward the mean among various subgroups of the Medicare population. Although Beebe found regression toward the mean regarding total Medicare reimbursement for strata of beneficiaries grouped by prior reimbursement and by prior utilization, "none of the groups [formed on demographic characteristics] show any appreciable tendency to regress toward the mean." Beebe suggests that demographic characteristics can identify groups that are healthier than average or have a higher than average proportion of persons with chronic conditions. Beebe's finding ties in directly with Gruenberg and Tompkins' (1985) identification of chronic survivors and nonchronic survivors. The critical issue is how to distinguish the chronically ill whose use will remain high and will not appreciably regress toward the mean from the majority whose utilization will regress toward the mean.

Special interventions

We believe that the best way to reduce the number of hospitalizations among patients at risk of experiencing multiple hospital admissions is to develop special interventions that aim to do just that. Special interventions for high-risk or high-cost patients (e.g., high-risk obstetrical patients) have been developed for several State Medicaid programs (Spitz, 1988), chronically mentally ill persons in a few communities (Mechanic and Aiken, 1987), and a number of diagnostic categories (e.g., neonatal complications, spinal cord injury, stroke, and mental illness) of persons insured by a growing number of employer-sponsored health plans (Henderson et al., 1987). However, it appears that no special interventions have been developed to reduce the number of hospital admissions among Medicare patients at risk of experiencing repeated hospitalizations.

For special interventions to be successful, they will have to include the identification of high-risk patients, close monitoring of these patients through case management, and provision of subacute care in nonhospital settings (i.e., at home or in nursing homes). Although we are unaware of any studies that have attempted to do what we are proposing for patients living at home, a number of studies and interventions suggest that our approach is feasible. There are several programs that have used various approaches to reduce the number of hospitalizations among nursing home residents.

Targeting high utilizers

Developing and carrying out an intervention of this type entails several steps. The first is to identify patients who are high utilizers of hospital care. This requires the targeting of two groups: the chronic survivors as well as the high-utilizer nonsurvivors.

Few of the recent interventions and demonstrations of the past 20 or 30 years have predominantly or exclusively served high users of hospital care (Table 2). This is the case with capitated programs, the in-home and community-based care demonstrations, and geriatric assessment and/or followup units. Of the capitated programs, health maintenance organizations, the four social health maintenance organization demonstration programs and On Lok Senior Health Services, all enroll predominantly low or average utilizers of hospital care. Among the "most rigorous and generalizable" in-home and community-based care programs, one finds that only a few of the studies did in fact serve people who experienced very high hospital use (Weissert, Cready, and Pawelak, 1987). This occurred because the reduction of hospital use was a main objective of only three of the demonstration programs—Project OPEN and San Diego Long-Term Care (Kemper, Applebaum, and Harrigan, 1987) and ACCESS:Medicare. Consequently, many of the demonstrations served populations with low-to-moderate annual rates of hospital use. Among the seven geriatric assessment and/or followup studies for which data are available on hospital use, only one cared for very high users of hospital care.

The number of hospital days per person per year for 25 in-home and community-based care and 8 geriatric assessment and/or followup studies for which hospital utilization data are available, are shown in Table 2. We present data on number of hospital days rather than hospital admissions because information on the latter is not available for all studies. Six provided care to patients who on average had very high hospital use (36-60 days per person per year); 9 cared for persons using a high number of hospital days (15-27 days per year); 11 served people with moderate hospital utilization (5-14 days); and 7 included patients who on average had low hospital use (4 or fewer days).

The 6 demonstrations or studies that experienced very high hospital utilization (more than 35 hospital days per patient per year for the control or comparison group) are shown in Table 2. The reductions in hospital use that occurred among the six programs as well as their cost effectiveness are discussed in the following section.

Reducing hospital use

The second component of a successful intervention for multiple-admission patients is the ability to substantially reduce hospital use. A number of programs have been able to achieve substantial reductions compared with control/comparison groups.

HMO's have been able to accomplish major reductions in hospital utilization, often 25-40 percent (Luft, 1978). However, the vast majority of HMO enrollees are at low risk of hospital use, and the average number of hospital days used by these enrollees is quite low. This is true of Medicare enrollees as well as the nonelderly. A recent evaluation of 20 TEFRA (Tax Equity and Fiscal Responsibility Act) HMO's found that their enrollees averaged only 2.2 hospital days per person per year (average use per plan ranged from 1.4 to 3.8 days) (Langwell et al., 1987). It also appears that HMO's have not generally developed interventions designed to reduce hospital admissions for persons who are high utilizers of hospital care or who are at high risk of using such care. We have been unable to locate in the literature any special interventions that have been conducted by HMO's that focus on high utilizers. In all likelihood, there are very few, if any, special interventions for multiple-admission patients being carried out by HMO's (Luft, 1988; Freeborn, 1988; Iversen, 1988).

Table 2

Hospital use among home care, community-based care, and geriatric assessment and/or followup studies and demonstrations: 1964-88

Name of study or demonstration	Hospital days per person per year for control/comparison group	Treatment group use compared with control/comparison group use
Very high hospital use	Number	Percent
ACCESS:Medicare (Medicare/Medicaid Group)	60.1	-78
ACCESS:Medicare (Medicare/Private Pay Group)	59.0	-26
Bristol, England, Acute Stroke Study	50.4	- 2
Rochester, New York, Home Health Care Team	39.5	-38
Johns Hopkins Post-Hospital Support	38.4	-24
Sepulveda VA Geriatric Evaluation Unit	36.4	-42
High hospital use		
Channeling Financial Model	26.8	- 4
ACCESS Neighborhood Case Management Team	26.0	-26
South Carolina Community Long-Term Care	20.0	-10
Channeling Basic Model	19.8	- 3
Monroe Community Hospital Geriatric Ambulatory Consultative Service	18.9	-40
Nursing Home Without Walls (NYC)	16.2	+ 9
National Center for Health Services Research Homemaker	16.0	+12
Nursing Home Without Walls (Upstate)	15.9	+17
New York City Home Care	14.9	-25
Moderate hospital use		
Chicago Five Hospital Homebound Elderly	14.0	-11
National Center for Health Services Research Day Care	13.0	-23
Chronic Disease	11.6	+ 5
Benjamin Rose Hospital Home Aide	11.4	-40
San Diego Allied Home Health Care	9.1	- 6
Roedovre, Denmark, Preventive Visiting	7.5	-24
Alarm Response	6.6	- 4
Highland Heights	6.4	- 8
White River Junction VA Outpatient Continuity	6.1	-38
On Lok Senior Health Services	5.4	-13
Congestive Heart Failure	5.4	+ 2
Low hospital use		
Middleton VA Geriatric Evaluation Unit Followup	4.2	+55
Worcester Home Care	4.0	0
Georgia Alternative Health Services	4.0	+50
Triage	3.4	+118
Oxford, England, Geriatric Screening and Surveillance	2.0	-29
Kaiser Portland Home Care and ECF Program, Age 65 or over	1.8	-28
Palo Alto VA Geriatric Clinic	1.5	+50

SOURCES: (Hospital Days from Table 5 in Weissert, Cready, and Pawelak, 1987, and from Berkeley Planning Associates, 1987; Zimmer, Groth-Juncker, and McCusker, 1985; Rubenstein et al., 1984; Eggert et al., to be published; Williams et al., 1987; Hendriksen, Lund, and Stromgard, 1984; Wasson et al., 1984; Kerski et al., 1987; Tulloch and Moore, 1979; Hurtado et al., 1972; and Yeo et al., 1987; Treatment group use calculated from Tables 5 and 6 in Weissert, Cready, and Pawelak, 1987, and from the other studies listed above).

The opportunity to reduce the number of hospital days, as well as the likelihood of generating significant dollar reductions, seems greatest among those who experience the most hospital use. Among the 33 studies in Table 2:

- Five of the six studies serving very high utilizers of hospital care achieved substantial reductions in hospital days, ranging from 24 to 78 percent.
- Six of the nine studies caring for patients who were high users of hospital care experienced reductions in hospital days. Three of the studies that achieved decreases had reductions of 25, 26, and 40 percent.
- Nine of the 11 studies that included moderate utilizers of hospital care had lower use. Four experienced large decreases, ranging from 23 to 40 percent.
- Four of the seven studies caring for patients who were low utilizers of hospital care had very large increases in hospital days, ranging from 50 to 118 percent. Two achieved large decreases (26 and 29 percent).

Of the studies whose patients were very high users of hospital care, only one, the Acute Stroke Study (Wade et al., 1985) with a reduction of only 1 hospital day per patient per year, failed to achieve a large reduction.

The most notable study in terms of identifying patients at very high risk of hospital use as well as achieving reductions in that use is ACCESS:Medicare (Berkeley Planning Associates, 1987). The Medicare/Private Pay treatment group used 42 days per year (26 percent fewer), and the Medicare/Medicaid treatment group used only 13 days (78 percent fewer). For the Medicare/Private Pay group, the number of admissions increased by 20 percent (from 1.5 to 1.8). This was more than canceled out by a decrease in average length of stay (ALOS) of 39 percent (from 18 to 11 days). Data on admissions and ALOS were not available for the Medicare/Medicaid group.

The Home Health Care Team (Zimmer, Groth-Juncker, and McCusker, 1985) consisted of a physician, nurse, and social worker, all with special expertise in geriatric care, who provided primary care at home to homebound chronically or terminally ill elderly. The Team was successful in reducing hospital use, the treatment group being hospitalized for only 24 days per person per year, 38 percent fewer than the control group (39 days). The treatment group experienced both a lower admission rate (15 percent less) and a shorter ALOS (12 percent less).

The Post-Hospital Support Program (Oktay and Volland, 1986) whose purpose was to support caregivers of very frail inner-city elderly following their acute hospitalization, reduced hospital utilization by 24 percent (from 38 to 29 days per patient per year). Both average length of stay of the initial hospital admission (when the patients entered the study) and subsequent hospital use were reduced.

The Supelveda Veterans Administration Medical Center conducted a randomized controlled trial (Rubenstein et al., 1984), which evaluated specialized geriatric care for hospitalized patients whose acute problems had stabilized. Treatment group members were assessed and treated by an interdisciplinary team in a 15-bed geriatric evaluation unit on an intermediate care ward. After discharge, the patients received followup care from a geriatric medical outpatient clinic. Control group patients were cared for in the usual manner in the acute care wards until discharge, after which they were eligible to receive all outpatient services other than the geriatric medical outpatient clinic. The eligibility criteria were designed to enroll only those patients for whom the intervention was anticipated to be successful. Only 8.5 percent of all patients who were screened entered the study. Treatment group patients used an average of 42 percent fewer intensive care and acute care hospital days per patient per year than control group members (21 days, as compared with 36).

Three studies involving high users of hospital care (15 to 27 days per person per year) achieved hospital reductions of 25 to 40 percent compared with control/comparison groups.

- Medically unstable geriatric patients living at home assessed by a multidisciplinary team in an outpatient clinic at Monroe Community Hospital in Rochester, New York, used 40 percent fewer hospital days in comparison to patients assessed by internists with good reputations for geriatric care (Williams et al., 1987).
- In the ACCESS study, comparing two models of case management for skilled-nursing-level patients living at home, the neighborhood team model used 26 percent fewer hospital days than the centralized brokerage model (Eggert et al., 1988).
- The New York City Home Care Project, which provided assessment, care planning, and case management by an interdisciplinary team, coordination of community resources, and delivery of critical gap-filling services to homebound, chronically ill elderly, reduced hospital days by 25 percent, compared with a matched comparison group (City of New York, 1984).

Four studies including moderate users of hospital care (5 to 14 days per person per year) experienced decreases in hospital days ranging from 23 to 40 percent.

- The provision of home aide service to patients not requiring intensive skilled nursing or custodial care, who were discharged from a geriatric rehabilitation hospital (the Benjamin Rose Hospital in Cleveland, Ohio) resulted in 40 percent fewer hospital days compared with the controls (Nielsen et al., 1972).
- Elderly men at the White River Junction Veterans Administration (VA) Hospital who received continuity of outpatient care used 38 percent fewer hospital days than patients who experienced discontinuous care (Wasson et al., 1984).
- Community-dwelling elderly persons age 75 or over in Roedovre, Denmark, who received quarterly in-home assessments as well as application for and coordination of community services, utilized 24 percent fewer hospital days than those receiving

care in the usual patient-initiated way (Hendriksen, Lund, and Stromgard, 1984).

- When adult day care was provided to persons eligible for Medicare who required health care services to restore or maintain functional ability (National Center for Health Services Research Day Care Experiment), the number of hospital days used was 23 percent lower than for the control group when missing or contaminated cases were excluded (Weissert et al., 1980).

Cost effectiveness

It is not sufficient to merely reduce hospital utilization. This reduction must be achieved in ways such that overall health care expenditures are not increased and quality of care is not compromised. Most of the studies listed in Table 2 were not cost effective. However, four of the six studies whose subjects were very high users of hospital days appear to be cost effective.

Although ACCESS:Medicare was able to substantially reduce hospital use, it was cost effective in terms of public expenditures for the dually eligible (Medicare/Medicaid) group but not for the Medicare/Private Pay group. Although not statistically significant, public expenditures were a substantial $206 (8 percent) less per patient per month for the treatment group. On the other hand, ACCESS:Medicare cost an additional $771 (49 percent) per patient per month for the Medicare/Private Pay group, because of greatly increased use of waivered home care and nursing home services (Berkeley Planning Associates, 1987).

Total health care expenditures in the Home Health Care Team study were 9 percent lower for treatment group patients than for control group patients, although this was not statistically significant (Zimmer, Groth-Juncker, and McCusker, 1985).

For the Post-Hospital Support Program, preliminary data from the evaluation estimate that treatment group expenditures were 13 percent lower than control group costs (Oktay and Volland, 1986).

For the Sepulveda VA Geriatric Evaluation Unit study, institutional VA costs per year survived were 19 percent lower for the treatment group (Rubenstein et al., 1984).

Nursing home interventions

Several studies have shown that substantial proportions of nursing home patients transferred to hospitals also experience multiple hospital admissions (Irvine, Van Buren, and Crossley, 1984; Gordon, Kane, and Rothenberg, 1985; Tresch, Simpson, and Burton, 1985; Barker et al., 1987).

A number of studies have attempted to improve the quality of care delivered in nursing homes. Several of these have also resulted in significant reductions in hospital use by nursing home patients.

Three nurse practitioners/physician assistants and 0.3 physician from a group practice of physicians and midlevel practitioners (the Urban Medical Group) provided care to an average daily census of 358 nursing home patients in 10 facilities, one-quarter in skilled nursing facilities (SNF's) and three-quarters in intermediate care facilities (ICF's). The physicians in the group practice were responsible for making the decision to hospitalize and admitted the nursing home patients as their private patients. The nursing home patients used significantly fewer (45 percent) hospital days per 1,000 patients per year than a similar nursing home population in Boston surveyed a few years earlier (3,955 days as compared with 7,198) (Mark, Willemain, and Master, 1976). The number of hospital admissions was also substantially lower (28 percent) for the patients cared for by the physician/midlevel practitioner group practice—338 as compared with 467 admissions per 1,000 patients per year (Master et al., 1980).

The Urban Medical Group also carried out two other studies, reported in one paper (Mark et al., undated). The first study compared 479 patients in 13 nursing homes who were cared for by the physician/nurse practitioner group practice with 449 patients in 8 matched nursing homes who received care from community physicians. Three-quarters of each group were residents of ICF's and one-quarter lived in SNF's. The number of hospital days was significantly lower (28 percent) for patients cared for by the physician/nurse practitioner group practice (5,253 days per 1,000 patient years as compared with 7,257 for patients cared for by the community physicians). The number of admissions was also substantially lower (20 percent) for the group practice patients (397 admissions per 1,000 patient years as compared with 495). The total cost per day of hospital and ambulatory care was estimated to be slightly greater (3 percent) for the group practice patients than for the comparison group.

The second study reported in Mark et al. (undated) is a retrospective study in 1 nursing home comparing 70 patients who received care from the nurse practitioner/physician group with 98 patients who received care from community physicians. In contrast to the previous two studies, two-thirds of the patients in each group were SNF residents and one-third were ICF level. As with the previous studies, however, the patients who received care from the nurse practitioner/physician group used significantly less hospital care. This was the case both for number of hospital days (9,543 per 1,000 patient years versus 22,667 for the control group, 58 percent fewer), as well as the number of hospital admissions (682 per 1,000 patient years as compared with 954 for the control group, 29 percent fewer). The total cost per day of hospital and ambulatory care was estimated to be 46 percent less for the patients cared for by the nurse practitioner/physician group: $13.57 versus $24.91.

A third significant study is the Sudden Decline Pilot Study (Zimmer et al., 1988) that we carried out under ACCESS:Medicare. Nursing home patients whose condition was "suddenly declining" and for whom

transfer to a hospital seemed likely during the following week were eligible for the Sudden Decline Benefit. ACCESS:Medicare would pay for an assessment of the patient by nursing home staff as well as a physician workup of the patient in the SNF. If both the physician and the nursing home agreed that the patient could be appropriately cared for in the SNF, ACCESS:Medicare would reimburse the facility at a higher rate to enable them to provide the increased nursing care required. The Sudden Decline Benefit also paid a higher rate for physician visits to the nursing home and would pay for visits on a daily basis if necessary.

The evaluation (a retrospective audit by a physician panel of the first 112 patients to use the benefit) found that 67 of the patients (60 percent) avoided a certain or likely hospital admission. Another 18 patients (16 percent) avoided a probable emergency room visit, and 14 (12 percent) required additional acute care in the SNF. Only 13 patients (12 percent) inappropriately received the benefit.

The pilot study estimated savings to Medicare of $3,000 per case. For patients also eligible for Medicaid, additional savings of $1,000 per case were estimated. The Medicaid savings resulted from the elimination of the necessity to pay for nursing home "bed holds" while the patient was in the hospital (Zimmer et al., 1988).

Research and demonstration recommendations

A few salient points from the preceding review bear repeating. First, a small proportion of persons account for the bulk of inpatient hospital expenditures. Second, the patients accounting for the bulk of these expenditures are chronically ill and experience a number of hospital admissions over a period of several years. This period of multiple hospital admissions is often followed by the death of the patient. Third, a number of different programs caring for patients experiencing very-high-to-moderate hospital use have significantly decreased the number of hospital days. On the other hand, interventions whose control/comparison group use was low often experienced substantially greater hospital use among treatment group members. Fourth, of the six programs that served very high users and were able to significantly reduce hospital use, four were cost effective. Fifth, several other interventions substantially decreased hospital use of nursing home patients.

Research and demonstration programs should be conducted to identify the best ways to reduce the number of hospital admissions and days used by persons at risk of high utilization. Research is needed both for persons living at home and for those in institutions. The goal of further research should be to identify the specific subgroups at highest risk, as well as the range of interventions that are most likely to improve cost and quality outcomes.

For special interventions to be successfully designed and carried out, additional information is required on the following:

- The types of multiple-hospital-admission patients and other high users, the diseases and conditions they have (many chronically ill elderly suffer from several), and their demographic characteristics, functional status, and service needs and use.
- How diseases and conditions, functional status, and service needs and use for different types of high utilizers change over time, and how their care should be managed.
- The distribution and amounts of various health care services being received by multiple-hospital-admission patients/high users living at home, and how these compare with those received by low utilizers.
- Whether, and if so, how, the hospitalization patterns of long-term home care patients differ from those of chronically ill persons living at home but not receiving home care.
- The use of hospitals by nursing home patients over time, including information on how some facilities care for various types of patients within the nursing home.

Models need to be developed, tested, and implemented for managing the care of patients over time (their "health careers") as their diseases or conditions become more severe, their functional status deteriorates, and they move back and forth from one in-home or out-of-home setting to another. This is especially important as health care utilization and expenditures are considerably higher during the last 3 or 4 years of life and usually increase as the patient approaches death.

The studies reviewed in this article that achieved significant reductions in hospital use are good models for replication or refinement or as the basis for more sophisticated models. Those models that have been found to be most successful in reducing hospital use should be closely examined to determine the common features or common aspects of programs that might have been especially successful with certain patient subgroups.

There is a noticeable absence of reliable estimates of the proportion of hospital readmissions that are preventable, although one British study (Graham and Livesley, 1983) estimated that 47.8 percent of readmissions to an inpatient geriatric service from the community were preventable. Also, a Monroe County, New York, study estimated that 40 percent of hospital admissions by nursing home residents were preventable (Van Buren et al., 1982).

Different diagnosis groups have been found to have different rates of hospital readmission (Gooding and Jette, 1985; Smith, Norton, and McDonald, 1985). Presumably, different types of special interventions would have different effects among various groups of patients. Specific models should be developed and tested for targeted groups. Clearly, targeting and cost effectiveness are crucial to the success of special interventions for high utilizers of hospital care.

Common sense as well as the existing evidence

strongly suggest that hospitals are the best location to identify high utilizers. Five of the six studies of very high users of hospital care discussed in this article obtained study participants predominantly or exclusively from hospitals. Prior use has been found to be the best single predictor of future utilization (Lubitz, 1987). A number of statistically significant predictors of hospital readmissions have been identified (Anderson and Steinberg, 1985; Fethke, Smith, and Johnson, 1986). Although more basic research is desirable for the longer term, existing information from these and other studies is sufficient to initiate demonstration programs for multiple-hospital-admission/high-utilizer patients at the present time.

Targeting and service use are directly related to cost effectiveness. Enrolling high utilizers will not be sufficient by itself to ensure cost effectiveness. The volume of services patients are eligible to receive must also be appropriately limited. The only eligibility criteria for ACCESS:Medicare were that patients require skilled-level care and that they required this level of care for at least 90 days. These criteria were sufficient for the demonstration to be cost effective for the Medicare/Medicaid group, but not for the Medicare/Private Pay group. The volume of post-acute services received by the latter group more than offset the reduction in acute inpatient use. Further research is required to determine the appropriate level of various services needed to achieve reductions in hospital use so that reductions are achieved in a cost-effective manner. We also need to better understand how the organization and management of service delivery provided in different models results in various outcomes (mortality, morbidity, functional status, quality of life, service utilization, expenditures, and quality of care) for specific types of patients.

Based on the literature and our experience in Monroe County, interventions most likely to reduce hospitalizations among persons living at home will have to combine aspects of the geriatric assessment and followup models (for example, Rubenstein et al., 1984; Williams et al., 1987), with features of the team case management models developed in Monroe County, New York, for terminal (Zimmer, Groth-Juncker, and McCusker, 1984) and high-cost patients (Eggert et al., to be published). Treatment protocols should integrate medical and nursing care with a strong social component to support the family and informal caregivers. Caution should be exercised in the use of supplemental in-home and community services, and the focus of additional services must be on respite and caregiver support. New intervention models should try to avoid repeating the disappointing outcomes of earlier community care studies (Kemper, Applebaum, and Harrigan, 1987; Weissert, Cready, and Pawelak, 1987), in which additional service dollars more than consumed savings on institutional care. The better use of long-stay hospital beds and/or residential health care facilities (Rubenstein et al., 1984; Zimmer et al., 1988) and congregate housing settings (Morris et al., 1987) as substitutes for hospital use should be vigorously tested. Overall cost effectiveness should be pursued through the use of realistic social break-even analysis or prospective budgeting models (Weissert, Cready, and Pawelak, 1987).

Strategies to reduce inappropriate hospital use by Medicare beneficiaries residing in nursing homes present unique issues of targeting and cost effectiveness (Ouslander, 1988). Research efforts could include making available to nursing homes more on-call personnel trained to handle acute situations, providing a wider range of diagnostic and treatment services, and reimbursing nursing homes for acute-level services. The development and financing of infirmaries or acute care sections in nursing homes might better integrate these facilities into the medical care system, as well as reduce readmissions to hospitals and ease the transition from hospital to nursing home when return to the community is not feasible.

The demonstrations of high-cost case management strategies called for in the Medicare Catastrophic Coverage Act of 1988 will provide a Federal focus for research and demonstration activities for high hospital utilizers. It is time to develop and test special interventions to reduce hospital use among multiple-admission patients, as first recommended by Roemer and his colleagues over 30 years ago.

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Case management of persons with acquired immunodeficiency syndrome in San Francisco

by A. E. Benjamin, Philip R. Lee, and Sharon N. Solkowitz

The acquired immunodeficiency syndrome (AIDS) epidemic represents a growing challenge for the health care system and for case management models applied to persons with AIDS. The experience of San Francisco highlights some of the issues involved in developing a case management system appropriate to the needs of persons with AIDS, as well as providers, and payers. Dramatic growth in the size and complexity of the AIDS caseload and the involvement of public, health maintenance organization, and community providers has required the increasing formalization and centralization of case management roles. Persistent questions about the definition and goals of case management complicate development of these services.

Introduction

It is estimated that between 1.0 and 1.5 million individuals are infected with the human immunodeficiency virus (HIV) in the United States, with the majority likely to develop acquired immunodeficiency syndrome (AIDS) in the next decade. By mid-1988 over 57,000 cases of AIDS had been reported to the Centers for Disease Control (CDC). More than one-half of the individuals diagnosed have died, and thousands more are afflicted with AIDS-related complex (ARC). By 1991, more than 270,000 individuals will have been diagnosed with AIDS and 179,000 will have died from the disease. It is projected that in 1991 alone, 145,000 persons with AIDS will require medical attention, and 54,000 will die during that time (Centers for Disease Control, 1988).

Nationally, 64 percent of all AIDS cases are reported among homosexual or bisexual males who are not IV (intravenous) drug users; 18 percent among heterosexual IV drug users; 7 percent among homosexual males who are also IV drug users; 4 percent among heterosexual partners of those in high-risk groups; 2 percent among recipients of blood or blood products; 1 percent among persons with hemophilia, and 3 percent of undetermined cause (Centers for Disease Control, 1988). The number of cases of AIDS in children is growing steadily; in early March 1988, this totaled 865. Although homosexual or bisexual males continue to account for the largest number of cases nationwide, the disease is spreading most rapidly among IV drug users, blacks, hispanics, women, and children.

AIDS cases have been reported in each of the 50 States plus Puerto Rico and other territories. The burden has been greatest in eight States, with New York, California, Florida, Texas, New Jersey, Illinois, Pennsylvania, and Massachusetts each reporting 1,000 or more cases. Most major metropolitan areas have now experienced the impact of the epidemic, most notably New York, San Francisco, and Los Angeles.

Although New York has many more total cases, no city has been as affected by the disease as San Francisco in terms of the burden of AIDS relative to its total population (Table 1). The response of the city and county of San Francisco to the local AIDS epidemic has been described in some detail elsewhere (Arno, 1986; Arno and Hughes, 1987; Silverman, 1987). As early as 1981, the San Francisco Department of Public Health (DPH) began to coordinate efforts to plan and develop services to respond to the health care needs of growing numbers of persons with AIDS (PWA's) in the city, most of whom were (and are) homosexual/bisexual males. In early 1982, DPH was provided local tax funds by the board of supervisors for the support of AIDS prevention activities and community psychosocial support services. In late 1982, a multidisciplinary

Table 1

Actual and projected AIDS cases by fiscal year: San Francisco

Fiscal year ending June 30	Cumulative cases	Number alive
	Actual number	
1980	0	0
1981	10	9
1982	63	45
1983	253	172
1984	634	355
1985	1,371	680
1986	2,353	1,031
1987	3,648	1,500
	Projected range	
1988	5,152-5,281	1,814-2,660
1989	6,536-6,983	1,954-3,201
1990	7,947-8,957	2,074-3,811
1991	9,386-11,258	2,178-4,522
1992	10,854-13,934	2,276-5,348
1993	12,349-17,022	2,383-6,288

NOTES: The difference between "cumulative cases" and "number alive" for a given year equals the cumulative number of deaths at the end of that fiscal year. AIDS is acquired immunodeficiency syndrome.

SOURCE: City and County of San Francisco, Department of Public Health. *AIDS in San Francisco, 1987-88.* Report to the Health Commission, Mar. 1988.

Reprint requests: A. E. Benjamin, Institute for Health and Aging, University of California N631Y, San Francisco, California 94143-0612.

AIDS outpatient clinic was established at San Francisco General Hospital (SFGH) to provide screening, diagnosis, treatment, followup, education, and counseling services. The first inpatient AIDS ward in the United States was opened at SFGH in 1983. Over the last 6 years the city has provided a substantial level of funding for a wide range of medical and social services for PWA's (City and County of San Francisco, 1988). Following is a list of available health and supportive services:

- AIDS screening/outpatient services, including dedicated clinics.
- General acute care resources at public and private hospitals.
- Skilled/intermediate nursing care.
- Residential care.
- Home health assessment/care.
- Attendant care.
- Hospice care.
- Practical support for daily living.
- Emotional support/counseling.
- Professional counseling and hospital advocacy.
- Mental health support.
- Telephone information and referral.
- Social service/financial entitlement.
- Emergency housing.
- Long-term housing.
- Substance abuse services.
- Food support.
- Foster care supplements.
- Social service advocacy.
- Practical support services.[1]

In addition, private physicians in fee-for-service practice, community hospitals, the Kaiser Hospital, and the Permanente Medical Group have become increasingly involved in the care of PWA's. What came to be known as the "San Francisco model" was developed through strong public sector leadership, exemplary medical care, a highly mobilized gay community providing volunteer services, psychosocial support and advocacy, and an early commitment to outpatient, home, and community-based services rather than inpatient hospital care (Arno and Hughes, 1987).

Emergence of case management

The response to the AIDS epidemic of both the public and private sectors in San Francisco has generated a range of medical, social, psychological, housing, and other services to meet the needs of PWA's. Considerable State and local resources have been directed toward development of a continuum of services appropriate to the complex character of the disease, which has significant and multiple acute and chronic dimensions. Somewhat paradoxically, the success of San Francisco in developing a range of services to address this complex of AIDS care needs has produced a new set of problems for planners and program managers, namely, how to manage the care of PWA's across providers in appropriate, responsive, and cost-effective ways (Morrison, 1988). This need to better manage the delivery of health and social services is exacerbated by two other characteristics of AIDS: (1) the likelihood of precipitous changes in physical and emotional status throughout the course of the illness, resulting in frequent changes in care needs; and (2) the increased incidence of neurological and psychosocial problems, further broadening the range and complexity of care needs. Like many communities that have had to confront the AIDS epidemic, San Francisco has devoted increased attention to development of case management services for PWA's in order to plan and monitor care throughout the course of the illness (Benjamin, 1988).

[1]City and county of San Francisco, 1988.

The current system

Case management refers to a set of support activities designed to complement various direct services provided to persons in need, especially the chronically ill. Although there exists considerable variation in definitions, models, and goals associated with case management (Spitz, 1987), these support activities generally are intended to reduce inappropriate use of inpatient hospital care, improve continuity of care, and enhance the client's quality of life in the community (Franklin et al., 1987).

Despite the widespread equation of case management with the "San Francisco model" of AIDS care, the emergence of formal case management as a public policy priority in San Francisco has been a relatively recent development. A brief examination of the role of case management within the local service network suggests at least three phases in the formalization and centralization of these support services. The definitions of "formalization" and "centralization" in this context will become clearer as these phases are discussed.

The first phase: 1982-85

As suggested earlier, the most striking feature of the period between 1982 and 1985 was the development of a continuum of medical and social services for PWA's, in the form of public services (e.g., inpatient and outpatient care), private sector care provided through public contracting (e.g., home health and hospice care), or volunteer services subsidized by public funds (e.g., housing, practical support/homemaker, food, information, and referral). During this period, case management as a set of activities was relatively informal and decentralized. Case assessment, planning, and monitoring were done by dedicated professionals and community volunteers as PWA's moved from agency to agency. In the early years of the epidemic, hospital discharge planning at SFGH, where more than one-half of the AIDS population received acute care, was a central (and the most formal) part of this informal case management network. More generally, when a PWA moved from one organization to another for

care, case management responsibilities were assumed by professionals in that organization. To the extent that these responsibilities were centralized at all, this occurred through a physician with a large AIDS caseload and/or a volunteer with the time and expertise to share this role. No single case manager was assigned to follow the patient throughout his or her illness and to plan and facilitate access to needed services.

For several years this relatively informal and decentralized system generally proved successful in San Francisco for a variety of reasons. First, the sheer number and variety of medical, social, and other support services available to PWA's reduced the likelihood that many persons would "fall through the cracks," however informal the case management might be. Second, a cadre of medical and social service professionals dedicated to AIDS care emerged rapidly in the city, and this group shared a philosophy regarding the importance of home- and community-based services and the need to help PWA's negotiate this network of services. Third, a large number of volunteers (many drawn from the local gay community) filled roles as case advocates when increasingly overworked professionals could not. Fourth, a relatively enlightened political and public health leadership took advantage of the city's then-sound fiscal situation and allocated funds to public and nonpublic AIDS providers so that the first three conditions were reinforced. Fifth, because DPH administers a full range of public health, medical, and long-term care services, it has been able in some important ways to coordinate care within the public sector and with the private sector. Sixth, DPH is governed by a broadly representative health commission that enhances public participation in policies and programs of the department. Seventh, the city itself is small and compact, so that, despite the growing AIDS caseload, there was a small number of core providers (among them, SFGH, Shanti, the Visiting Nurse Association and Hospice of San Francisco, the San Francisco AIDS Foundation, and the AIDS Health Project) that offered services to most PWA's and were well known to one another, thus facilitating informal planning and management across agencies over time. Finally, the number of AIDS cases, although large relative to other communities, did not overwhelm the service system in the early years so that informal and decentralized strategies could succeed.

The second phase: 1985-86

This system of case management worked well until the number of PWA's began to increase rapidly in 1985-86, at which point more formal but still relatively decentralized variants began to develop. In 1986 various observers began questioning whether the pool of volunteers on which the San Francisco model depended could be sustained (Arno, 1986; Lee, 1987; Jenna, 1987) and whether dedicated professionals could continue to coordinate and manage care as an adjunct to their direct service responsibilities. As more community hospitals, including the Kaiser hospital, physicians, home care agencies, and other providers, became involved with AIDS care, informal approaches to case coordination became much more difficult. Growth in the number of intravenous drug users and homeless among persons with AIDS (although still small proportionally), along with the expanded number of cases with central nervous system involvement, increased the complexity of the (mainly white, homosexual/bisexual male) caseload in the city and demanded more experienced and less episodic attention to the service needs of PWA's than was available from volunteers. The result has been an increased need to formalize and coordinate the case management efforts of individual provider agencies and to plan for a more centralized system of communitywide AIDS case management in the future.

The third phase: 1986-present

The case of SFGH, which currently provides excellent care to about one-third of the inpatient and outpatient PWA's in the city, illustrates both the strengths and limits of current case management efforts. The highly esteemed designated inpatient unit and outpatient clinic at SFGH have developed a significant capacity for hospital discharge planning and followup for PWA's. Multidisciplinary discharge planning at SFGH begins at the point of inpatient admission or earlier (i.e., in the outpatient clinic). The public health department has helped established formal agreements between the public hospital and other community care providers to facilitate coordinated care outside the hospital. Weekly case conferences at SFGH involving many community providers and volunteers have enhanced case planning and coordination. Because the hospital currently utilizes 40 or more acute care beds for AIDS patients and provides 2,000 outpatient visits per month, however, sustained case management activities must be limited primarily to the acute episode and its immediate aftermath, rather than to the entire period of illness. Although this hospital and post-hospital period may well be the most difficult for many PWA's, for most it represents 10 percent or less of the duration of the illness. Because even excellent hospital discharge planning is circumscribed in its scope and impact, therefore, these activities need to be articulated with a broader system of case management.

Kaiser Permanente, the largest health maintenance organization in the region, currently enrolls nearly one-third of PWA's in San Francisco. At the same time that Kaiser has become a major provider of AIDS care, it has sought to avoid designation as carrier of choice for PWA's and the adverse selection that might follow from favorable publicity. Kaiser does not provide an expanded service package for AIDS, although it does flag catastrophic cases and provide "out-of-contract" services where those will reduce hospital use. Case management services are

offered to PWA's and persons with severe ARC. Because the Kaiser service package is limited (e.g., home care services are not covered) case managers focus upon locating resources, including local programs and Medi-Cal (Medicaid), that will pay for and/or provide needed services to plan members. As at SFGH, case management attention has been given primarily to hospital discharge activities, especially to arranging referrals to nonplan providers.

One of the goals of case management at SFGH, at Kaiser, and at the community hospitals is to reduce the utilization of inpatient care through the planning and coordination of care provided outside the hospital. In addition to those enrolled in the Kaiser health plan, over one-third of San Francisco's AIDS population is covered by private insurance during at least part of their illness. Blue Cross, Prudential, Aetna, and other third-party insurers share an interest in limiting hospital use and managing medical care to reduce costs. Most insurers have established mechanisms for flagging catastrophic cases and for offering case management to these potentially costly enrollees, and AIDS tends to be included in this general process. Like Kaiser, these insurers will pursue those home and community-based alternatives acceptable to the client and considered to have cost-saving potential; however, care for which reimbursement is provided tends to be limited to skilled medical services. Few insurers in California are planning to develop AIDS-specific case management efforts outside their broader mechanisms for addressing catastrophic illness.

Next steps

By most indications, the next stage in the evolution of case management in San Francisco will be the development of centralized case management that attempts to bridge those services provided by single agencies, organizations, and individuals. The availability in the last 2 years of State and Federal funding to support case management initiatives has reinforced local efforts at formalization and encouraged trends toward more centralization. The Department of Public Health in San Francisco received a demonstration grant in 1986 from the Office of AIDS (California Department of Health Services) to provide home care and case management services to a small number of PWA's. The success of this modest initiative, which placed more emphasis on service subsidies and data collection than case management, has led the city to apply for more substantial funding from the State to support development of a centralized case management system; that proposal is still pending. At the State level, the California Department of Health Services is seeking a Home and Community-Based Waiver for Medi-Cal-eligible PWA's, and strong provisions for local, centralized case management are included in that pending application. Both initiatives have stimulated planning for new approaches to case assessment, coordination, and monitoring.

The case management program for which additional funding has been sought from the State Office of AIDS is designed to establish a case management capacity in the city DPH that is expected to serve PWA's referred from SFGH, district health centers, community hospitals (including Kaiser), physicians in private practice, community and government agencies, family members and friends, and self-referrals. The proposed program will initially support two case management teams, each of which will follow 40 AIDS/ARC patients from the time of initial inpatient admission (or referral) through the course of the illness. Directed by a public health nurse with assistance from a medical social worker, the team will be responsible for conducting initial and ongoing needs assessment and ensuring access to appropriate services.

Conclusion

The experience of San Francisco in organizing and managing the delivery of AIDS care leaves various questions unanswered regarding case management system design and financing. The AIDS provider community in San Francisco remains split on the merits of centralized case management. In a relatively small city with relatively abundant services and strong provider networks, decentralized case management can claim considerable success. The centralization of case management under DPH, moreover, may require the adjustment of established interagency linkages at some administrative cost to participants. On the other hand, centralized case management may be essential in those communities where similar resource and collaborative conditions do not exist. Although San Francisco has embraced what has come to be known as a "brokering model" of case management, under which case management involves gaining access to and coordinating existing services, communities with fewer available AIDS services have adopted a "direct service" model (Wright, Sklebar, and Heiman, 1987), in which case managers not only plan for care but directly provide those services not otherwise available to PWA's. In the latter model, caseloads must necessarily be smaller than in the brokering model, case management costs are likely to be higher, pressures to ration care will be greater, and the need for centralized administration more obvious.

Considerable debate continues regarding another design issue: who should perform case management functions? Although everyone endorses a team approach in principle, participants differ in terms of their commitment to medical versus social case management models (usually in the form of nurse versus social worker) and in terms of the extent of professional training needed (i.e., bachelor or masters level). Arguments on both sides usually involve the types of services that should be emphasized and the cost of staffing a case management system. An additional issue concerns the scope of case management and, specifically, whether case managers can reasonably be expected to foster interagency

coordination in areas where that is rare (e.g., psychosocial and mental health with medical care). Under some circumstances, professionals trained to manage the care of individual PWA's will confront the need to alter institutional relationships in order to be successful. Such change may only result from the efforts of institutional leadership, not case managers.

Case management in San Francisco and many other communities has been designed primarily to address the needs of the largest subpopulation of PWA's in those locales, i.e., homosexual and bisexual men. It is likely that case management approaches will have to be adapted to different AIDS populations, because a system designed for gay, white males is unlikely to be appropriate for minority, male and female intravenous drug users (IVDU) with children who also are infected. At the least, we know that the latter population is not accompanied by the network of volunteers and specialized services established by gay organizations in various communities and that various behavioral problems associated with drug use make planning and monitoring care more difficult. Demonstration and waiver programs in New Jersey, New York, and a few cities with large numbers of IVDU-AIDS cases may cast light on the elements of case management appropriate to this AIDS population.

Special state-funded initiatives and prospective Medicaid waivers currently represent the primary sources of funding for case management services.[2] Payment for case management continues to be provided only under exceptional circumstances, and more established and routine sources of funding may be needed if case management is to play a significant role in AIDS care. Case management has succeeded in San Francisco because many of the services needed by PWA's were available for case managers to coordinate. Without additional funding for such services, and most significantly long-term care services, case management becomes an empty gesture. As the number of AIDS cases grows and the fiscal burden of AIDS care on governments (especially local ones) increases, it is important also to recognize that funding for indirect services like case management are likely to be reduced before that for "harder," direct services. In the absence of a clear understanding of what case management is and which goals it serves (Spitz, 1987), the price of such policy choices will be difficult to assess.

The literature on case management for the chronically ill elderly, the mentally ill, and others needing a wide range of medical, social, and support services, raises serious questions regarding the capacity of case management to reduce inpatient hospital utilization or to reduce costs (Capitman, Haskins, and Bernstein, 1986; Kemper et al., 1986; Spitz, 1987; Franklin et al., 1987). In many cities where AIDS lengths of stay are twice (or more) those of San Francisco, planners remain hopeful nonetheless that the introduction of case management will reduce dependence on inpatient care through the coordinated use of outpatient, home, and community services. Although many factors besides case management explain the shorter length of stay in San Francisco (Scitovsky, Cline, and Lee, 1986; Arno and Hughes, 1987), there remains reason to believe that in other communities, AIDS may prove the exception to prior findings on the limited impact of case management by demonstrating that these services can shorten hospital stays and thus reduce the overall costs of caring for persons with AIDS.

[2]The Robert Wood Johnson Foundation and the Health Resources and Services Administration (Public Health Service) also provide demonstration funds for AIDS case management in selected cities.

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Case management in capitated long-term care

by Rick T. Zawadski and Catherine Eng

For a very impaired population needing multiple interrelated services, the case management approach used by On Lok Senior Health Services in San Francisco, California, produces a responsive, flexible service system. Case management in On Lok's consolidated model has three key characteristics: (1) a true multidisciplinary team of medical as well as nonmedical personnel who separately assess, then, as a group, plan with the client and/or the family the services to be given; (2) use of the same team to assess needs and deliver services; and (3) team access to a potentially unlimited array of services, with freedom to adapt or create needed services.

Background

Generically, case management refers to any method of linking, managing, or coordinating services to meet client needs and typically includes client assessment, service coordination, and followup. The concept of case management in long-term care was popularized through a number of demonstrations in the 1970's and early 1980's and evolved from concerns about the quality and accessibility of long-term care services, as well as the cost of nursing home and, to a lesser extent, acute medical care (Ruchlin, Morris, and Eggert, 1982). One of the first of these demonstrations, Triage (1974-78), sought to "increase the range and availability of [community long-term care] services and to coordinate service delivery" (Quinn and Hodgson, 1984). In other demonstrations, case management was used as a service and became a means to control unnecessary nursing home use (Eggert, Bowlyow, and Nichols, 1980). Zawadski (1984), in his review of eight demonstrations, differentiates three models of case management:

- The prior authorization screening model, in which a health professional assesses the individual considering institutional placement, determines whether alternative community services could be provided and, if appropriate, arranges those services.
- The brokerage model, wherein a health professional independently assesses an impaired individual, arranges services through other providers, and regularly reassesses and follows the client.
- The consolidated model, in which a multidisciplinary team assesses needs and actually provides the services ordered.

Blending the objectives and experiences of both the prior authorization and brokerage models, Section 2176 of the Omnibus Budget Reconciliation Act of 1981 established the 1915 waiver authority. Among other things, this authority allows Medicaid reimbursement for case management systems of community-based long-term care. Under this waiver program and through other private sector initiatives, case management has begun to emerge as a separate reimbursable service. Today case management more commonly refers to this specific service—a health professional assessing the needs of an impaired individual, arranging services, and monitoring the individual's progress on an ongoing basis. The National Institute on Community-Based Long-Term Care, an affiliate organization of the National Council on the Aging, is now developing standards for case management services.

This article describes the consolidated model of case management as used in On Lok's capitated long-term care program. The consolidated approach to case management combines the assessment and monitoring functions with service coordination and delivery. The model is described, service utilization impacts are presented, and the strengths and weaknesses of this case management model are discussed. The role of the physician, as a member of the multidisciplinary case management team, and the role of medical management within this program are examined.

On Lok's approach

The On Lok program

On Lok Senior Health Services began in 1972 as an adult day health program serving the elderly in San Francisco's Chinatown, North Beach, and Polk Gulch areas. By 1983, On Lok had developed into a comprehensive long-term care program, the Community Care Organization for Dependent Adults (CCODA), which differed significantly from traditional long-term care models in that:

- The full range of social and medical services were integrated into a single program.
- The same professionals (a multidisciplinary team) planned and delivered nearly all services.
- On Lok had total control over all service expenditures.
- On Lok emphasized personal independence and utilized the day health center as its primary delivery setting.
- A single source (Medicare) paid for all services.

From 1979 to 1983, the CCODA operated under Federal Medicare waiver authority. At the end of this waiver period, the CCODA appeared to be a financially viable model that benefited its funders, its participants, and their providers. In 1983, On Lok initiated the risk-based CCODA, in which the successful service program remained unchanged, but

Reprint requests: Catherine Eng, On Lok Senior Health Services, 1441 Powell Street, San Francisco, California 94133.

its funding base under Medicare and Medicaid waivers was broadened to offer fixed, competitive rates to the system's traditional payers for long-term care services. Since 1983, On Lok has received prospective monthly payments from Medicare, Medicaid, and/or the individual (based on the individual's entitlement) and has assumed full responsibility for using the resulting pool of funds as needed to meet all the health and health-related needs of its 300-plus enrollees, each of whom has been certified by the State of California as needing a nursing home level of care, intermediate care facility (ICF), or skilled nursing facility (SNF). With assumption of financial responsibility, On Lok gained freedom from traditional (fee-for-service or diagnosis-related group) reimbursement systems and requirements, becoming the first provider to assume full financial risk for the total health care of an impaired long-term care population.

In the fall of 1986, Federal legislation (Public Law 99-509) authorized On Lok-type Medicare and Medicaid waivers enabling capitation financing for as many as 10 other programs around the country, and the Robert Wood Johnson Foundation funded On Lok to study the feasibility of extending its model to other settings. More than 100 organizations expressed interest and, as of spring 1988, two of these organizations have begun trial years of operation.

Six working principles underlie On Lok's model:

- Focus on the very impaired and frail elderly who require ongoing care for the rest of their lives.
- Comprehensive medical, restorative, social, and supportive services that together address the client's multiple, interrelated problems.
- A fully integrated, coordinated response to the needs of the client.
- Complete control by the service team of any and all services needed.
- Emphasis on participants' continued community residence.
- A risk-management orientation.

The organization's administrative structure allows for rapid adaptation to changing conditions; its philosophy and financial base make possible the assumption of financial risk; and its management skills and information base enable effective monitoring of clients' services and costs. Specific features of the risk-based CCODA model include the multidisciplinary-team approach to service coordination, the primary care provider as an integral member of the service team, extensive use of day health services as an efficient community service option, and flexible use of housing with services.

Although all On Lok enrollees are certified by a representative from the California Department of Health Services to be at the ICF or SNF level of care, only 5 percent actually reside in nursing homes. The other 95 percent live in the community, with support services provided by On Lok, family, and friends. On Lok's participants are old (average age is 81.2 years), functionally impaired (Table 1), and medically frail. Each participant has an average of more than five medical conditions.

Table 1

Summary of participants' medical conditions and impairments in functional skills: July-September 1987

Condition or impairment	Percent of participants
Medical condition	
Total: 324 persons	
Cardiovascular	74
Nervous system/sense organ	62
Musculoskeletal	45
Digestive	41
Blood/blood-forming	40
Mental disorder	39
Neoplasm	27
Skin condition	23
Endo/nutri/metabolic	22
Respiratory	17
Genitourinary	14
Congenital	0
Functional impairment	
Total: 315 persons	
Cognition:	
Short-term memory	87
Long-term memory	81
Orientation	62
Sensory:	
Vision	94
Hearing	57
Speech	29
Musculoskeletal:	
Lower extremity	85
Upper extremity	54
Continence:	
Bladder	77
Bowel	48
Activities of daily living:	
Bathing	75
Grooming/hygiene	59
Dressing	53
Toileting	47
Transferring	58
Walking	55
Eating	18

SOURCE: On Lok Senior Health Services: Data from the *Risk-Based Community Care Organization for Dependent Adults Progress Report No. 4*, August 1987 through October 1987, San Francisco, Calif., Dec. 1987.

The multidisciplinary team

It is well recognized that medical management of the frail elderly requires a comprehensive approach (National Institutes of Health Consensus Development Conference, 1988) that includes not only a careful assessment of their multiple and complex medical problems, but also an assessment of their functional capabilities, their social supports, and their psychosocial well-being. All these goals are accomplished at On Lok through the collaborative efforts of multiple professionals and allied health care providers within the framework of multidisciplinary team management, the core of the On Lok model of

long-term care. The physician's role is integrated in a unique manner into this multidisciplinary team approach.

The multidisciplinary team at On Lok is comprised of many professionals, including physicians, nurse practitioners, nurses, social workers, nutritionists, and therapists (occupational, physical, and speech), as well as health workers and drivers who have frequent close contact with participants. Each professional individually assesses the participant according to a defined protocol. The team meetings, which are held weekly, begin with summaries of the formal assessments made by each professional and may also include health workers' observations of individual cases. Assessments are made on persons newly referred to the program, on established participants (each is fully assessed every 3 months), or on participants with significant interval management problems. Upon completing the assessment of each case, a treatment plan is formulated by the team members, usually through a process of negotiation and agreement. The wishes and needs of the participant and/or family are incorporated into the assessment process and the treatment plan is discussed with and approved by them. The plan is then implemented by members of the team.

Implementation of treatment plans by primary care providers who also formulate them and monitor results of treatment is an important and crucial characteristic of the On Lok model of risk-based long-term care. Services are allocated and rendered efficiently based on the needs assessment of each patient. Outcomes of treatment become apparent to the care providers, and adjustments can be made quickly under this system. There is efficient feedback and reaction. This dual role of the multidisciplinary team—that of formulation and implementation of treatment plans with continuous adjustments—is unique among community-based long-term care programs.

A nontraditional element of On Lok's multidisciplinary team is the inclusion of the staff physician as an integral member. Unlike most teams with physician members, the On Lok team is not physician-led. Participant's medical problems are managed by the physician, but as a member of the team, the physician takes part in a process of shared decisionmaking when a participant's medical problems coexist with such needs as housing, psychosocial supports, and in-home supports.

Medical services

Most medical services are provided in the outpatient setting (Table 2): a medical clinic open 8 hours a day, 7 days a week, adjacent to an adult day health center, integrally linked to home health and in-home support services. A day health center is an expanded model of day care that is oriented to the very impaired and provides an array of services including nursing, therapy, and personal care. Currently, On Lok has three adult day health centers, together serving about 305 participants. The linking of day health to clinic services is crucial. On Lok's three centers are also licensed and serve as outpatient medical clinics, making possible the provision of a full range of outpatient medical services.

Primary care is provided by a team of staff physicians, nurse practitioners, nurses, and health workers. They comprehensively assess patients newly referred to On Lok, provide routine quarterly health assessments and physical exams, evaluate and treat episodic illnesses, monitor and treat chronic conditions, give intravenous fluid therapy, administer and monitor medications, provide health education, and coordinate services.

Table 2

Service utilization summary in selected service categories: July-September 1987

Type of service	Total number of service days for quarter	Average percent receiving services per month	Average number of service days per user per month
Day center services			
Social service	1,878	90	2.1
Primary medical care	731	61	1.3
Nursing	11,196	97	12.3
Personal care (activities of daily living)	6,449	79	8.6
Physical therapy	2,234	48	4.9
Occupational therapy	845	31	1.8
Meals	[1]21,700	96	24.2
Transportation to the center	[2]10,998	81	14.3
In-home services			
Home health services:			
Primary medical care	59	11	0.6
Nursing	410	29	1.5
Physical therapy	32	2	1.5
Occupational therapy	44	5	0.9
Social service	44	6	0.9
Supportive services:			
Personal care	4,177	37	11.8
Homemaker/chore	978	36	2.8
Portable meals	14,681	65	23.9
Attendant care	6,563	27	25.5
Inpatient services			
Hospital	170 [3](0.6%)	9	2.3
Intermediate care facility or skilled nursing facility	1,529 [3](5.4%)	6	28.8

[1]Number of meals.
[2]Number of round trips.
[3]Percentage of total capitation days (28,150).

NOTE: Total number of persons using any services is 323.

SOURCE: On Lok Senior Health Services: Data from *The Risk-Based Community Care Organization for Dependent Adults Progress Report No. 4*, August 1987 through October 1987, San Francisco, Calif., Dec. 1987.

The major portion of clinic services is provided bynursing personnel with physician supervision. Each of the three clinics serves about 60 participants a day and is staffed by two registered nurses (RN's) and one licensed vocational nurse (LVN). Because the physician must provide services in the hospital, in the nursing homes, as well as in the clinic, the day-to-day variations in a participant's health status are monitored by the RN staff and discussed with the physician. A collegial relationship exists between physician and nursing staffs that promotes collaboration on skillful, timely, and often innovative management of complex medical conditions in the outpatient setting.

For those participants with significant psychiatric impairments, consultation by a psychiatrist is available. Outpatient primary care also includes dental, optometry, audiology, podiatry, and speech therapy services and equipment, all included in the single capitation rate.

Only On Lok's staff physician can authorize referrals to and treatments by outside medical consultants, keeping primary coordination and allocation of services under On Lok's control. Conditions requiring consultation and treatment by outside specialists are first evaluated by the staff physician prior to referral for medical consultation. Consultants are members of On Lok's specialist consultant panel comprised of community physicians who charge fees for their services according to a rate schedule negotiated with On Lok.

Ancillary clinic services—all laboratory tests, X-rays, and complete pharmacy services—are provided under contract with two local hospitals and a community pharmacy. The monthly capitation rate includes these services and all drug costs, which for some participants exceeds $150 per month.

Participants who require acute hospital care are admitted to either of two nearby community hospitals, with which On Lok annually negotiates a flat, all-inclusive per diem rate for services. (Rates are adjusted upward for stays in the intensive care unit, coronary care unit, or burn unit.) On Lok's staff physician manages the care of the On Lok patient in acute care and coordinates and authorizes all necessary consultations. Discharge planning is coordinated by On Lok's physician and the multidisciplinary team, thus relieving the hospital's discharge planners of that responsibility.

Participants who require 24-hour skilled nursing care reside in one of three nursing homes within reasonable proximity to On Lok, with which On Lok annually negotiates a per diem rate per patient. These participants remain in the On Lok system with continuing physician management and weekly visits by a nurse from On Lok's home care staff who coordinates management between nursing home staff and On Lok's multidisciplinary team.

On Lok is not a traditional home health agency; home services are approved by the multidisciplinary team and implemented by the home health nursing staff, comprised of three RN's and one LVN. The RN staff train and supervise licensed home health workers to provide services to participants in the home. There is direct and, when necessary, immediate contact between nursing staff and home health aides whenever participants have a change in health status or change in home support systems. Adjustments are often immediate after coordination with the multidisciplinary team.

Since 1981, respite care has played a significant role in the medical management of On Lok participants. Respite services are provided in a housing unit served by On Lok. The multidisciplinary team authorizes entry into respite care. While residing in the respite unit, the participant attends the day health center daily to receive professional services and receives personal care and monitoring during the evening and night hours from health workers under the supervision of the home health nursing staff.

Ethical concerns and medical management

Nowhere is the collaboration between physician and other members of the multidisciplinary team more important than in the area of ethical concerns. At a time when health care technology can artificially preserve and prolong lives, frequently at great cost, and when the means to provide such extraordinary care may become limited (Fuchs, 1984), medical management of the frail elderly is fraught with treatment dilemmas. In risk-based models of care such as On Lok's, in which there is a finite pool of resources, these dilemmas are already commonplace.

Decisions to undergo or forego treatments always rest with patients or their legal surrogates (Ruark et al., 1988). At On Lok, medical management includes determination of those decisions. In collaboration with the multidisciplinary team, the physician has an opportunity to work closely with participants and families. The physician offers advice with a knowledge of complex medical conditions in perspective with functional capabilities and psychosocial supports. Early on, and within the context of quarterly evaluations, patients are encouraged to express their health wishes. In a nonemergency setting, even the most frail and demented participants can often express wishes regarding life supports and artificial means of feeding. Written advance directives, such as durable powers of attorney for health, are encouraged for participants capable of signing them. Utilizing these advance directives and health wishes, the physician has guidelines for intervention and treatment. In On Lok's experience, the majority of patients, when given the opportunity to express health wishes in a nonemergency situation, do not desire aggressive, noncurative, life-prolonging measures such as hemodialysis, nasogastric tube feedings, and ventilator support of respiration.

The vulnerability of the program's frail elderly population is a significant concern. Unlike younger, more mobile, and healthier consumers of health care, the frail elderly are often too cognitively and

physically impaired to assume self-advocacy roles or find alternatives to care. To safeguard the care of this vulnerable population within the consolidated model, On Lok has implemented additional quality assurance measures.

First, On Lok strives for accountability to the community it serves. On Lok solicits community input in every facet of its program and allows community service providers access to processes that monitor care within the agency. The medical advisory and utilization review committees, comprised of community health professionals, provide regular, independent assessments of appropriateness and timeliness of care. Community members serve on On Lok's ethics committee and provide input on the handling of sensitive ethical issues impacting on service delivery. Formed in 1984, the ethics committee acts in an advisory capacity only and does not direct care delivery. The committee is accessible to all On Lok staff as well as On Lok participants and their families. Deliberations of the committee are confidential.

Within the agency, the multidisciplinary team is itself a quality assurance process. Treatment plans are tailored to the individual participant's needs after full face-to-face assessments every 3 months. Services allocated are monitored for effectiveness. The team members are accountable to each other in ensuring that services are delivered without fragmentation or delay. In this respect, the members of the team are engaged in an ongoing process of peer review. In addition, as a matter of policy, On Lok's administrators exert no cost restraints on service allocation decisions by the multidisciplinary team.

Quality assurance also is furthered by the presence of a data collection system at On Lok that tracks patient demographics, health and functional status, and service utilization patterns. This tracking system has allowed both internal and external reviewers to determine whether the volume of services received by individual participants is appropriate for their health and functional status.

Findings and discussion

The direct impact of On Lok's consolidated model of case management can be seen in patterns of service use. The high degree of service control made it reasonable to expect reductions in use of high-cost inpatient services, but the reduction exceeded expectations. The most significant impact has been the reduction of high-cost hospital days. As shown in Table 2, hospital days for the program's very impaired population during the period July to September 1987 was .6 percent of all capitation days or 2,204 days per thousand enrollees per annum. This rate is comparable to hospitalization rates for a sample of 19 TEFRA (Tax Equity and Fiscal Responsibility Act) HMO's (health maintenance organizations) (2,223 days per 1,000 member years in 1984) (Langwell et al., 1987). On Lok's hospitalization rate is also below that for the general aged Medicare population in the fee-for-service system (3,197 days per 1,000 Medicare enrollees in 1984) (Langwell et al., 1987) and well below rates for a comparably impaired population (10,950 days per 1,000 persons) (Zawadski et al., 1984).

Moreover, hospital use was reduced over time within the On Lok program for essentially the same population. From February 1980 to May 1981, hospital utilization was 6,935 days per 1,000 enrollees. From July 1981 through October 1982, utilization dropped by more than one-half, to 2,920 days per 1,000 enrollees, and for the next 5 years remained below that level. Eng (1982) studied the change in utilization and found it to be the result of reduction in both the number of hospitalizations and lengths of stay. Hospitalization related to exacerbation of chronic conditions was almost eliminated and number of hospitalizations for diagnostic work was reduced. Hospitalization related to acute events, e.g., hip fracture or stroke, was not reduced. For all hospitalizations, length of stay was reduced from 10.5 days in 1980 to 8.5 days in 1982. On Lok's success in reducing numbers of hospital admissions and lengths of stay was achieved in 1981-82, approximately 1 year before the enactment of the prospective payment system. Currently, length of stay of On Lok participants is averaging 6.5 days.

Nursing home days were also reduced. In 1981, more than 9 percent of On Lok participants resided in nursing homes. An aggressive deinstitutionalization policy reduced nursing home days to less than 3 percent by 1984. This policy was subsequently tempered by an analysis of client outcomes and costs, which found nursing home care to be an appropriate and cost-effective option for some. During the third quarter of 1987, nursing home use was 5.4 percent.

Community services have increased, offsetting some of the decrease in inpatient services. Day health is essential to the On Lok model; effectively each participant attends the day health center at least once a week, with average attendance of 15 days a month. A majority of clients (approximately two-thirds) also receive some in-home services. In-home support services increased dramatically as nursing home days decreased.

These changes in service utilization can be attributed in large part to On Lok's consolidated model of case management. First, linking case management with service delivery increases the responsiveness of the service system. Changes in this medically unstable population can be identified quickly and service plans changed immediately. Second, the staff physician assumes total inpatient and outpatient primary medical care responsibility, and, through the multidisciplinary team process, has access to a broad array of services, making it possible to find alternatives to high-cost hospitalization and nursing home use and to facilitate early discharge. Finally, capitation financing and provider assumption of financial risk gives the multidisciplinary team the opportunity to create new, more cost-effective services not otherwise reimbursable in the fee-for-service

system. An example of a new service that has contributed to the reduction in inpatient care is respite care.

Respite care services were developed in 1981 by the On Lok multidisciplinary team, which recognized that frail elderly patients frequently develop medical conditions or family/support crises that cannot be resolved while the patient continues to reside at home. Some medical conditions such as mild respiratory or urinary tract infections do not necessarily warrant acute hospital care. However, for a frail elderly patient marginally managing at home, such infections can tip the balance into a state of functional dependency. With medications, the patient may develop increased forgetfulness, unsteady gait, or incontinence. For such patients, traditional alternatives have been acute hospitalization or nursing home placement once the functional impairments complicated the illness. But hospitalization under these circumstances often disorients the patient even further, and nursing home placement often means permanent institutional care. Respite care has also been used to reduce length of stay following acute episodes. In recent years, respite care has become an important long-term care concept (Berman et al., 1987). Respite services are now an integral part of On Lok's risk-based model of long-term care. The case study below demonstrates some of the functions of a consolidated model of case management and the role of respite care.

There are disadvantages to a consolidated model of case management. First, it is staff-intensive and therefore expensive. At least 5 professionals independently assess and reassess each client every 3 months and a team of 10 to 15 providers meets to discuss the participant's needs and to develop a coordinated service plan. Case management linked with service delivery responsibility is certainly more expensive than an assessment by a single case manager in a brokerage system and followup arrangements with providers. However, providers under a brokerage model must also communicate with case managers and, for service delivery and reimbursement purposes, do their own assessment, service planning, and monitoring. When many different providers are involved, this duplication, in addition to case management, can prove more costly and can undermine the coordination of care. Capitman, Haskins, and Bernstein (1986), in comparing different models of case management, disaggregated service component costs at On Lok and found case management costs in On Lok's consolidated model to be lower than those of many of the brokerage models.

A second disadvantage of the consolidated model of case management is the lack of independence. In a brokerage model, the case manager typically provides no other service and therefore can impartially find the most appropriate and cost-effective service provider and objectively monitor service quality. A consolidated model, by definition, removes this independence. The increased control over services and strong incentive for cost control in On Lok's model potentially places clients at risk. On Lok has been careful to develop quality assurance mechanisms to address this concern. Although adequate for its program, these protective mechanisms are still not foolproof; better quality assurance mechanisms are needed prior to the widespread use of this model.

Conclusion

In its generic sense, as a method of linking clients with services, On Lok's multidisciplinary team with direct-service-delivery capability represents the most complete and comprehensive model of case management. Although similar in purpose, the approach to case management in On Lok's capitated long-term care program is quite distinct from the more popularly known brokerage models of case management. In the brokerage model, the assessment/linking/followup functions of case

Case study

An 88-year-old woman, who lived alone and had Alzheimer-type dementia and a previous right hip fracture, was found on the floor of her apartment one morning by On Lok staff. She had fallen as she had arisen from her bed and subsequently was unable to get up or to summon help. She was admitted to the hospital by On Lok's staff physician after X-rays revealed a displaced left hip fracture. Orthopedic consultation was obtained on admission. The following day, under spinal anesthesia, the patient underwent open reduction and placement of a hip prosthesis. Postoperatively, there were no complications. Physical therapy began the first postoperative day.

The patient was discharged from the hospital on the first postoperative day to On Lok's respite care unit. For the next 2 weeks, she attended the day health center daily, where On Lok's physical therapist supervised a treatment plan of progressive ambulation with the patient using a walker. The clinic nursing staff monitored the surgical wound for infection, and dressing changes were done daily. At the end of each day, she returned from the day health center to reside in the respite care unit, where she received personal care from home health aides in the evening and night. Personal care included helping her to learn to use a bedside commode safely at night. At the end of the 2 weeks, the patient was ambulatory with a walker, without hip pain, and her surgical wound was healed.

She was discharged from respite care back to her home, where increased hours of home care were arranged for her each morning and evening. She continued to attend the day health center 5 days a week for physical therapy. Although she was ambulatory with a walker, she was unable to negotiate the three flights of stairs to her walk-up apartment. She was accommodated by being carried up and down the stairs by two drivers until she could navigate the stairs herself.

management are a stand-alone service deliberately separated from service delivery. In the consolidated model, the case management functions are integrally linked with service management and delivery.

The question is not: Which model is better? There are advantages and disadvantages to each. The more appropriate question is: For what type of client, and in what type of situation, is each model most appropriate? For a client with minor impairment who is alert or has family assistance, good information and referral is probably the only service that is needed. A moderately impaired individual with little or no informal support would benefit from brokered case management. A seriously impaired individual with a number of medical conditions, multiple interrelated needs, and limited, if any, informal support typically requires many services simultaneously and also needs close monitoring to deal with these frequently changing conditions. For these individuals, a consolidated model of case management may be the most effective way to meet client needs and to organize and deliver services.

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Case management in the social health maintenance organization demonstrations

by Cathleen L. Yordi

In this article, case management departments and roles during the early years of the social health maintenance organization (S/HMO) demonstrations are compared. These organizations provide acute and chronic care services under a prepaid plan for the elderly. Eligibility criteria for case management and chronic care services at each site are compared, followed by a description of the resultant case mix of members receiving chronic care benefits. Case managers principal activities are described, and a preliminary assessment is made about the strength of the linkages that have been developed between the case management component of these plans and the larger health care system.

Introduction

In 1980 the Health Care Financing Administration (HCFA), in cooperation with the Health Policy Center of Brandeis University, began planning a demonstration program to provide and finance long-term care services. This demonstration program uses a social health maintenance organization (S/HMO) to combine acute and long-term care services under a single prepaid health care plan for the elderly. S/HMO benefits include all basic acute and ambulatory health care services covered by Medicare as well as selected chronic care services. These services are paid for by Medicare on a capitated basis, along with a premium paid by the enrollee, or when applicable, Medicaid.

The demonstration was designed to address the health care and health insurance needs of both a severely impaired and a well group of elderly. Beneficiaries meeting their State's nursing-home-certifiable criteria at enrollment receive an adjusted Medicare capitated rate, which is higher than the adjusted average per capita cost (AAPCC) rate established for the well enrollees. Although all enrollees are eligible for basic Medicare benefits, only those assessed as nursing home certifiable or "at risk" of nursing home placement are eligible for chronic care benefits. The availability of long-term chronic care benefits, and the associated case management processes, distinguish an S/HMO from a health maintenance organization (HMO); these features plus the capitation payment distinguish an S/HMO from fee-for-service health care.

The demonstrations began in early 1985 and will continue for 7 years under the current terms of the program. The four sites involved include: Elderplan in Brooklyn, New York, sponsored by Metropolitan Jewish Geriatric Center; Medicare Plus II in Portland, Oregon, sponsored by Kaiser Permanente Center for Health Research; Seniors Plus in Minneapolis, Minnesota, sponsored by Group Health Inc. and Ebenezer Society; and SCAN Health Plan in Long Beach, California, sponsored by Senior Care Action Network. Although under different organizational auspices, all S/HMO's share the common purpose of testing the ability of these health plans to attract members and to provide an expanded array of acute and chronic care benefits within a capitated budget.

HCFA has commissioned a comprehensive evaluation of the S/HMO's by a consortium of researchers. The prime contractor is the Institute for Health & Aging at the University of California; others include Berkeley Planning Associates, the Center for Demographic Studies at Duke University, and Westat, Inc. The evaluation has both quantitative and qualitative research components. It explores the cost effectiveness of each S/HMO demonstration model as well as internal operations and environmental factors affecting program outcomes. The evaluation investigates nine major issues:

- Selection bias in initial enrollment and in attrition.
- Utilization of specific acute and chronic care services.
- Public, third party, and out-of-pocket expenditures for acute and chronic care services.
- Factors associated with decisions to enroll or not enroll in an S/HMO.
- Health status and mortality rates among S/HMO members and nonmembers.
- Levels of informal caregiving and changes over time.
- Marketing efforts, the market area, and environmental conditions affecting each site's operations.
- Patterns of change in the organizational form, management, and financing at each site as the programs evolve.
- The effectiveness of case management in controlling chronic care service use and cost and assuring access to appropriate levels of care.

An interim evaluation report covers organizational and operational issues (Health Care Financing Administration, 1988). Current field work is gathering health status, health service utilization, and out-of-pocket expenditure data on S/HMO enrollees and the fee-for-service comparison group. The evaluation is currently scheduled to end in the spring of 1990.

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Reprint requests: Cathleen L. Yordi, Berkeley Planning Associates, 2200 Adeline Street, Berkeley, California 94703.

The focus of this article is on case management roles and activities across the four S/HMO demonstration sites. The information presented is drawn from data gathered during site visits in 1986 and from progress reports during the first 2 years of operation of the S/HMO's, which began enrollment in 1985. Throughout this article, emphasis is placed on the 1986 data, which represent a more stable program period and are less susceptible to variations experienced during the initial startup period. It is important to note that the S/HMO is an evolving form, and as such, there have been some important changes in case management and its activities since this article was prepared. The information provided here describes S/HMO case management as it functioned at the close of the second year of the demonstration and does not reflect changes made as the plans assumed full financial risk.

Case management's mandate

At each S/HMO demonstration site, the case management component was given responsibility for managing the non-acute, long-term care services. In the S/HMO, the role and authority of the case manager was envisioned as much broader than in earlier long-term care demonstrations (Leutz et al., 1985). In most earlier demonstrations, the case manager role focused primarily on screening and assessment and the coordination and/or authorization of community-based care (Austin, 1983; Berkeley Planning Associates, 1985; Health Care Financing Administration, 1988; Zawadski, 1984). In the S/HMO, the case manager was to have primary responsibility for authorizing all long-term care services, responsibility for monitoring the chronic care services and budget, and final authority over chronic care resource allocation. Beyond this, it was hoped that the case management component would also be able to establish new norms of practice regarding linkages with other components of the health care system. It was also hoped that these norms would lead to care of a consistently high quality that would simultaneously maintain chronic care costs at budgeted levels.

Within these broad goals and objectives, each demonstration plan was permitted flexibility in developing its case management model. As implemented, no two case management models were alike.

Service eligibility criteria

Eligibility criteria for chronic care services and case management differed among sites. There were no restrictions placed on the plans by HCFA as to which members should be eligible to receive the expanded long-term care benefits. During the planning phase, there was debate about the advisability of limiting services to the severely impaired versus providing services to less impaired members as a preventive measure. Ultimately, eligibility criteria were based on level of functional impairment. In addition, because the plans were reimbursed at a higher capitated rate for members assessed as meeting their State's nursing home certification (NHC) criteria, it was decided to link eligibility for the chronic care services, at least in part, to nursing home status.

Although each plan paralleled its State NHC form and guidelines to qualify a member for chronic care benefits (and a higher reimbursement rate), the NHC criteria were different among the four demonstrations. (Forty-five variables were used for certification and only 11 were common to all plans.) Each plan also expanded eligibility criteria beyond NHC, allowing at least some services to members who were not nursing home certifiable (henceforth referred to as "certifiable"), but who were considered to be "at risk" of future institutionalization by case management staff.

The final determination of eligibility for chronic care services and/or case management was determined by interrelated factors: the stringency of the State's nursing home criteria and the plan's application of these criteria; the extent to which the plan permitted provision of chronic care services to less impaired members; and the extent to which the plan provided case management services to members who did not qualify for chronic care services.

The eligibility criteria of the four plans can be placed on a continuum ranging from the most restrictive to the least restrictive. Medicare Plus II used the most restrictive criteria, followed by Elderplan. Seniors Plus and SCAN Health Plan were much less restrictive, electing to provide preventive services to moderately impaired members.

Case mix

At all of the sites, the case management department was the single entry point into the chronic care service component of the S/HMO. Each plan used two standardized screening and assessment forms. Initially, every new enrollee received by mail a baseline health status form (HSF). If this form, or a followup telephone screening to review HSF responses, indicated that the person might be impaired, a case manager conducted an in-person comprehensive health assessment. Telephone screenings and comprehensive assessments could also be triggered by referrals from S/HMO medical staff and other service providers. Following the comprehensive assessment, a final determination was made about eligibility for chronic care services.

Given the differences in the eligibility criteria and processes at the four sites, it was not surprising to find that different proportions of the total membership were being permitted access to chronic care services. In Table 1 one can see the numbers and proportions of the S/HMO membership who were certifiable, of the members who were receiving chronic care services, and of the members who were receiving case management services only during the fourth quarter of 1986. Also shown, where available,

Table 1

Case-mix comparisons of selected types of members of four social health maintenance organizations: Fourth quarter of 1986

Plan and type of member	Fourth quarter 1986		
	Number	Actual membership	Projected membership
		Percent	
Medicare Plus II			
Total membership	4,300		
Nursing home certifiable members	289	6.7	5.0
Members receiving chronic care services	195	4.5	5.0
Members receiving case management only	176	4.0	—
Elderplan			
Total membership	2,502		
Nursing home certifiable members	103	4.1	5.0
Members receiving chronic care services	73	2.9	13.8
Members receiving case management only	65	2.6	—
Seniors Plus			
Total membership	1,688		
Nursing home certifiable members	122	7.2	4.3
Members receiving chronic care services	185	11.9	8.5
Members receiving case management only	139	8.2	—
SCAN Health Plan			
Total membership	2,061		
Nursing home certifiable members	114	5.5	4.0
Members receiving chronic care services	250	12.1	10.0
Members receiving case management only	162	7.9	—

SOURCES: Elderplan, Brooklyn, New York; Medicare Plus II, Portland, Oregon; Seniors Plus, Minneapolis, Minnesota; SCAN Health Plan, Long Beach, California: Data from their respective S/HMO demonstration quarterly reports, Oct.-Dec. 1986.

are plan projections of case mix made during the planning stages of each S/HMO.

Medicare Plus II projected that only 5 percent of its membership would be certifiable and only those enrollees would receive chronic care services. By the fourth quarter of 1986, the S/HMO had 4,300 members; 6.7 percent were certifiable, but only 4.5 percent (67 percent of the certifiable group) were receiving chronic care services. Another 4 percent of members received case management services only (i.e., periodic monitoring). The proportion of certifiable members was larger than the proportion of members receiving chronic care services for two reasons. First, the informal caregivers of some certifiable members provided all needed services. Second, during the first 24 months of the demonstration, there was an anomaly in the State of Oregon's NHC criteria that resulted in several incontinent Medicare Plus II members being evaluated as certifiable, although they did not actually need services.

At Elderplan, the actual number of functionally impaired persons receiving chronic care benefits was considerably lower than that projected in its demonstration protocol. Elderplan projected that 13.8 percent of its members would be impaired and using chronic care services at any given time. Of the four plans, Elderplan had the highest projected use of chronic care benefits. By the fourth quarter 1986, this S/HMO had 2,502 members; 4.1 percent were certifiable, and only 2.9 percent were receiving chronic care services (i.e., approximately 71 percent of certifiable members were receiving chronic care services). Another 2.6 percent received only case management services.

Seniors Plus projected that 4.3 percent of its members would be certifiable, but that 8.5 percent of enrollees would receive chronic care benefits. This reflected this plan's orientation toward using chronic care services as a form of third-level safeguard to forestall further deterioration of the condition of moderately or severely impaired members at risk of becoming certifiable. By the fourth quarter of 1986, the S/HMO had 1,688 members; 7.2 percent of enrollees were certifiable; 11 percent of the members were receiving chronic care services; and an additional 8.2 percent of members received case management services only.

SCAN Health Plan also followed the Seniors Plus strategy of preventive use of chronic care services and projected that a larger proportion of its membership would receive those services (10.0 percent) than would be certifiable (4.0 percent). As was the case for Seniors Plus, the actual membership was more impaired than was anticipated. By the fourth quarter of 1986, SCAN Health Plan had 2,061 members; 5.5 percent were certifiable; 12.1 percent were receiving chronic care services; and 7.9 percent received case management monitoring only.

These data indicate that at the end of the second year of the demonstration, two of the plans were providing chronic care benefits (either case management or chronic care services) to a large proportion of the membership who were assessed by case managers as "at risk" of institutionalization but who did not meet their State's NHC criteria. At SCAN Health Plan, only 28 percent of those receiving chronic care benefits were certifiable; at Seniors Plus, the percentage was only slightly higher—35 percent. In sharp contrast, at Elderplan and Medicare Plan II, at least three-fourths of the chronic care recipients were certifiable. These differences are noteworthy because as the plans assumed full financial risk in year three, SCAN Health Plan, citing fiscal reasons, petitioned HCFA and changed its eligibility criteria, offering chronic care services only to members who were certifiable.

Primary case management roles

In large part, the roles, responsibilities, and authority given to the case management component of

the demonstration plans were determined by their organizational model—whether the plan's principal sponsor was an established HMO or a long-term care provider that created a newly formed HMO. The organizational model was also a key determinant of case management department linkages to the larger S/HMO delivery system. Indeed, the organizational model often determined whether the case managers had direct control over a service or whether the case manager's role was primarily that of coordinating with another health care provider.

The major difference in case management practices between the established HMO and long-term care organization S/HMO models is found in the degree of involvement of S/HMO case managers in monitoring acute care utilization. The two S/HMO's affiliated with established HMO's (Medicare Plus II and Seniors Plus) chose to leave primary responsibility and control over acute care utilization (i.e., hospital and post-hospital, skilled nursing home, and home health care) to their respective HMO utilization review and discharge planning staff. The S/HMO's founded on preexisting long-term care organizations (SCAN Health Plan and Elderplan) attempted to gain control over acute care utilization by assigning part of the utilization review and discharge planning responsibilities to the case management component of the S/HMO. Both plans experienced considerable difficulty with the original providers when they attempted to place case managers in these new roles. For example, at one site the case manager role was a source of contention with the regular hospital utilization review and discharge planning staff, who maintained that the job could be done more efficiently and effectively in-house. A more detailed discussion of organizational factors influencing hospital and nursing home utilization is presented in the interim congressional report (Health Care Financing Administration, 1988).

Other case managers' roles were similar across all plans, reflecting traditional case management functions (e.g., assessment, care planning, and service arrangement). At all sites, the case managers were responsible for coordinating the fairly comprehensive array of institutional and community-based long-term care services that constituted the chronic care benefit package. Much of each case manager's time was spent arranging chronic care services. In addition, case managers routinely contacted non-S/HMO service providers to obtain information or refer members for services not covered by the S/HMO, such as legal help, social security assistance, shared housing, friendly visitors, and senior centers.

All plans emphasized involving and supporting informal caregivers. Face-to-face meetings or telephone calls were conducted with caregivers to negotiate care plans, explain benefits and copayments, clarify client needs, help the family accept client disabilities, facilitate family interaction, identify tasks family members could reasonably perform, and support family caregiving efforts. All plans had written guidelines specifying that no chronic care services could be authorized without first exploring the availability of potential help from informal caregivers.

At each of the sites, resource allocation was a primary role of the case manager. In most cases this required the development of a long-term chronic care service utilization plan to prevent clients from exhausting their benefits. Additionally, the plans had somewhat different benefit periods and cost-sharing arrangements (Health Care Financing Administration, 1988).

It is important to place in perspective the actual dollar amount available for a case manager's use in developing a chronic care plan. An impaired person's S/HMO chronic care budget was not large. For example, SCAN Health Plan offered a fairly generous $7,500 annual benefit, yielding an average monthly benefit of $625. If an elderly person with Alzheimer's disease needed day care 3 days a week (at $27 per day) and a home health aide to assist the family with the member's personal care needs for 2 hours (at $8.75 per hour) on the days when day care was not attended, the weekly cost would be $151, which would exceed the budget. For members with short-term or time-limited chronic care service needs, benefit limits usually posed no problem. For a highly impaired person requiring services on an ongoing basis, services had to be carefully allocated to maximize member benefits.

To date, it appears that the case managers have been able to monitor and maximize benefits with considerable success. For example, during the fourth quarter of 1986, the plans reported that only a small number of members had exhausted their benefits—less than .01 percent. During the fourth quarter of 1985, even fewer members exhausted their benefits.

Service integration

By the end of the second year of the demonstration, plans varied considerably in the extent to which the acute and long-term services had been integrated to provide an effectively coordinated continuum of care for impaired elderly.

In general, at Medicare Plus II, S/HMO case mangement was a fairly insular unit functioning with a reasonable, although not a high, degree of coordination with the larger Kaiser system. Most physicians and providers generally did not know whether a member was in the Medicare Plus II program. The larger Kaiser system remained responsible for acute hospital care, medical care, and Medicare-covered home or nursing home care. The S/HMO case managers were only responsible for the expanded chronic care services and budget.

At Elderplan, there was little evidence of an integrated service system. It appeared that the S/HMO could have benefited from stronger ties and coordination between the medical/hospital service components and the case management component responsible for long-term care. A large number of medical specialists operating independently of the

S/HMO were responsible for acute hospital care. The primary care physician group was under contract to the S/HMO but was not closely linked to the case management component. In an attempt to gain control over hospital utilization, a case manager was assigned the utilization review and discharge planning functions, but did not have the power or authority to influence practice patterns. Further, working relationships between key personnel in the principal acute care hospital and the case managers were not strong. Long-term institutional and in-home care were the sole responsibility of the case managers, with little input from the medical component.

In contrast to Elderplan, Seniors Plus appeared to effectively integrate the S/HMO case management department with two strong preexisting service providers—Group Health, Inc. and Ebenezer Society. At each level of health care—acute hospital, outpatient clinic, nursing home, community-based services, and in-home services—there were well defined, closely coordinated working relationships between the case managers and the other service providers. In turn, the other service providers recognized that when a S/HMO client required chronic care services, the case managers then had control over chronic care service use and cost. Continued coordination between the acute care and long-term care service teams was evidenced in the case conference meetings attended by the medical director, select physicians, the home care service director from Ebenezer, the geriatric nurse practitioner who managed nursing home care, and the S/HMO case managers.

In the SCAN Health Plan, a large number of health care providers could be involved in a member's plan of care. Even though the SCAN program had a number of years of experience working with many of the providers in the multipurpose senior services program (MSSP), the S/HMO case management department faced a tremendous challenge as it attempted to coordinate this diverse group of service providers (more than 100) into a comprehensive continuum of care for the impaired S/HMO members. Each type of health care was provided by a different vendor under contract. With the assistance of the SCAN Health Plan medical director, the role of the case management department was to coordinate this array of service providers. At the end of the second year of the demonstration, based on service provider interviews, it appeared that some of the linkages needed to be strengthened and better coordinated—especially between the S/HMO case managers and the primary care physicians, the medical specialists, and the hospital discharge planning unit.

A detailed description of the acute and long-term care service delivery systems at each site at the end of the second year of the demonstration is provided in the congressional report (Health Care Financing Administration, 1988). This report also provides information on the health care environment and the market in which each of the plans was implemented.

Research agenda

This preliminary review of the case management component of the S/HMO demonstrations has identified a number of issues and questions to be examined in subsequent analyses. In addition, the ongoing research agenda contains specific questions about S/HMO members who are eligible for and are receiving chronic care benefits.

- How do the health and functional limitations of members receiving chronic care services and case management vary across plans?
- To what extent do plans provide case management to persons determined not to be nursing home certifiable? What are the implications of this for State nursing home criteria, plan resource allocation, and beneficiary satisfaction?
- How do services differ between members assessed as nursing home certifiable and members assessed as "at risk" of institutionalization?
- What is the potential impact on client case mix and program revenues of standardizing nursing home certification criteria?
- What are members' covered chronic care service needs and unmet needs?
- How do case managers affect family involvement in chronic care?
- What are the quantitative and qualitative differences in each plan's approach to case management for members with the same primary diagnosis?
- What out-of-pocket costs are incurred for noncovered long-term care services?
- Can case managers remain within chronic care budgets as the membership ages and frailty advances?
- Should case managers participate in hospital utilization review and discharge planning?
- What impact will multiple vendor agencies have on case management work load and member satisfaction?
- Will case managers be able to develop formal chronic care standards and protocols for issues such as normal usage, equity of service allocation, and quality of care?
- What similarities and differences are evolving between case management in the S/HMO's and earlier long-term care demonstrations?
- What aspects of the S/HMO case management approach are transferable to other prepaid health care settings?

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Private sector initiatives in case management

by Mary G. Henderson, Barbara A. Souder, Andrew Bergman, and Ann F. Collard

Case management for high-cost patients is offered by virtually all private insurers and many health management firms. Despite the proliferation of the service, little is known about the process of case management, how it varies among vendors, what its impact is on short- and long-run patient costs, and what its effects are on quality. In this article, the authors present the results of a survey of insurance-based programs that reveal some process variations that could lead to differences in program effectiveness and cost.

Introduction

Case management for high-cost patients is a cost-containment strategy that has recently gained tremendous popularity. The service is currently offered by virtually all private health insurance companies, most health care benefits management firms, and many small independent vendors. More recently, acute care and rehabilitation hospitals have begun to develop case management programs that will manage patients' care both inside and outside of the institution. Several State Medicaid programs have also begun to contract with private vendors or to offer case management services themselves for recipients with higher-than-average costs. Medicare has initiated a similar approach through its community care demonstrations focusing on long-term care (Kemper, Applebaum, and Harrigan, 1987).

Case management for high-cost patients seeks to control the health care expenditures (both acute and long-term) of the small proportion of the population that accounts for a large share of health expenditures. Utilization and cost analyses consistently find that as little as 10 percent of a given group can consume up to 70 percent of total health care expenditures (Zook and Moore, 1980; Congressional Budget Office, 1982; Berki, Wyszewianski, and Gimothy, 1983; Dobson, Scharff, and Corder, 1983; Health Data Institute, 1985; Riley et al., 1986; Ricklef, 1987).

Most high-cost patients can be classified into one of three categories. The first category consists of patients who have incurred major illnesses or injuries that require one extensive episode of hospitalization at the onset of the insult, intensive medical monitoring over an extended period of time, and perhaps long-term custodial care. This category includes premature or congenitally handicapped infants and victims of traumatic head or spinal cord injuries. The second category includes those individuals who suffer from chronic medical conditions such as cardiac illness, cancer, or AIDS (acquired immunodeficiency syndrome), who may require multiple hospitalizations and treatments throughout the course of the illness (Rosenbloom and Gertman, 1984). The third category includes individuals with mental illness or substance abuse problems, who require either continuous confinement or intermittent heavy utilization of health care services. Some employers have seen mental health and chemical dependency costs grow from 15-20 percent of health plan costs in the early 1980's to more than 40 percent in 1987 (Ricklef, 1987).

Virtually all case management programs for high-cost illness share the objective of coordinating and organizing health care resources to most efficiently address the medical and psychosocial needs of patients and families. Care for the very sick and severely ill is believed to be especially vulnerable to problems of duplication and fragmentation. For example, individuals may seek care from many sources or from inappropriate providers. Theoretically, at least, case managers can influence the kinds and amounts of services provided and the succession in which they are rendered to achieve the highest quality care at the lowest cost.

Many private companies have turned to case management because it has the potential to concentrate cost containment efforts on the few high-cost cases. Our research and contacts in the field lead us to the conclusion that there is a widespread perception that other cost-cutting programs designed for all employees have little effect on the high-cost group. Cost shifting, through high deductibles, coinsurance, or premiums, is unlikely to have a significant impact on medical care utilization by individuals traumatized by catastrophic illness or injury. Mechanisms aimed at providers, such as prospective pricing, discount arrangements, or alternative delivery systems, may also have limited impact because high-cost patients often are excluded or choose not to participate in these arrangements.

Despite the proliferation of case management for high-cost patients, questions about this service remain. How do current private sector programs work? In what ways do programs vary? What are the implications of these variations for program effectiveness? What are the frequency and magnitude of savings achieved by case management? Do savings achieved outweigh program costs?

In this article, we present findings based on two data sources to answer these questions. First, to address the process issues of case management, we conducted a telephone survey of 23 case management programs offered by large insurers and health management companies. Second, from one large insurer's program, we analyzed 244 case records representing 5 conditions—spinal cord injuries, head

Reprint requests: Dr. Mary G. Henderson, Bigel Institute for Health Policy, Heller Graduate School, Brandeis University, Waltham, Massachusetts 02254-9110.

injuries, infant prematurity, cancer, and AIDS—to understand the cost effectiveness of case management.

Process of case management

Case management seeks to achieve cost-effective, quality care through four interrelated and interdependent activities:

- Seeking alternative settings and providers that are usually, but not always, lower in cost.
- Coordinating the sequence of care by facilitating communication among providers, patients, insurers, and other involved parties.
- Recommending or arranging for the coverage of alternative services not covered in the patient's plan.
- Instituting monitoring mechanisms.

The process itself generally consists of four phases: identification and referral of high-cost or potential high-cost cases; screening and assessment of referred cases for acceptance into case management; development and implementation of the case management plan; and case closure.

Identification and referral

Early identification of high-cost patients is considered to be the most significant factor in achieving cost savings. In a study performed by Intracorp on 300,000 disability management cases, timely referral was the best predictor of a successful outcome in terms of cost containment (Mazoway, 1987). Identification of cases at or near the onset of the accident or illness can lead to cost savings for three reasons. First, a large proportion of the costs incurred by these patients are generated in the early, acute phase of the illness. Case management personnel can intervene to ensure that this critical phase of care is provided in the most appropriate treatment setting by the most appropriate providers. Second, even though active management may not begin until later in the course of treatment, early intervention can facilitate the later stages of the process. The cooperation of the physicians and nurses involved in the care of the patient, considered by many to be the most critical element in the successful management of the patient, must be gained early in the patient's course of treatment. Third, families are often in greatest need of support and information in the acute phase of the illness. An effective case management program can gain family cooperation by providing emotional support and advocacy at this time.

In programs operating within fee-for-service plans, case management is typically triggered using diagnostic, cost, or other criteria. As shown in Table 1, all programs offered by the 10 largest commercial insurance carriers use a diagnostic list of the 10 or 15 conditions likely to be high-cost. However, a major difference among programs is found in their handling of mental health and chemical dependency cases. Although some insurance companies include these cases in their case management programs, many contract with specialty vendors for mental health and chemical dependency patients.

Many times, the case management program is integrated with other services provided by the vendor, such as hospital preadmission screening and continued inpatient stay review, which act as flags for identifying patients who may require case management. In other instances, cases are identified through the claims approval process. Typically this route is less effective, as long delays can occur between the onset of the accident or illness and the receipt of the claim. Finally, the case management service may have an on-site patient care coordinator who may refer cases.

Identification can also be initiated by the company for which the patient or patient's family member works. In this situation, the case management program is notified by the personnel or benefits department, the medical department, or the employee assistance program (EAP). And, in some instances, patients refer themselves or are referred by family, providers, or hospital discharge planners.

Screening, selection, and assessment

Once potential cases are identified, referrals are screened and briefly assessed for case management appropriateness. Administrative screening, usually performed by clerical staff, determines if the insurer is the primary or secondary payer; what the insurer's level of liability is; and if the company has purchased the case management service. Patients found eligible through this screening process move on to a brief assessment phase, generally handled by a case manager, to determine if the case will be managed.

Some case management programs decide whether or not to accept a case solely on the basis of its potential to demonstrate short-term (e.g., within 3 months) savings. To arrive at this decision, the case manager may or may not use formal protocols or explicit criteria. He or she may take into account the timeliness of the referral; the patient's current clinical status; and the adequacy of the patient's current treatment plan. If patient care is already being appropriately managed by the provider, community agency, or family, there may be little need for involvement of the case management program.

The decision whether or not to manage a case is a crucial one, influencing overall program cost effectiveness. Because charges for the case management service itself are considerable, program costs could easily outweigh savings, if all patients who are in a certain diagnostic group or who have incurred a certain level of claims are accepted for case management. The dilemma faced by programs is that the process used to determine whether to accept or reject cases is an imperfect one. Imperfect information about the case and a large number of uncontrollable factors—such as the clinical course of the patient's condition or the willingness of the family, medical providers, and the corporate client to

accept the decisions of the case management program—make it difficult to accurately target cases for management. There is a clear need for evaluation and research to uncover variables that could improve the likelihood that selected cases would benefit from case management.

Obviously, financial incentives play a part in the selection process. As shown in Table 1, some vendors charge separately for management services, usually on an hourly basis. Fees can range up to $130 per hour. Other vendors may include the cost in premiums or administrative overhead. Still others fold the case management costs into the price of the entire package of cost control and review services. Finally, some charge a flat fee (based on a percentage of total paid claims, for example). Clearly, those who charge by the hour face a strong incentive to relax assessment criteria and manage most referred patients. Programs that do not charge separately or that charge a flat fee may be forced to use more stringent acceptance criteria and may actually miss some cases that could benefit from management.

Finally, the attitude of the corporate client paying for management is very influential in deciding who is managed. If the client is purchasing the service for cost-containment purposes only, the case management program is under greater pressure to justify management on the basis of short-term cost savings. On the other hand, if the client views case management as a benefit or "quality enhancement,"

Table 1

Selected characteristics of case management programs for the 10 largest[1] commercial insurance companies: United States, 1986

Name of company	Trigger event	Case manager training	Site visits	How reimbursed
Prudential	Diagnosis list and/or maximum length of stay	Registered nurses	Performed when necessary	Fee-for-service
CIGNA[2]	Diagnosis list and/or annual claims of $20,000 or more	Registered nurses with specialized training	Routinely performed	Fee-for-service for large employers; cost factored into premium for small employers
Mutual of Omaha	Preadmission review screen; claim volume; provider or other referral	Registered nurses	Performed when necessary	Depending on policy contract, cost factored into premiums or fee-for-service
Aetna	Diagnosis list	Registered nurses	Arranged through local vendor	Per case charge based on projected savings
Travelers	Diagnosis list, and/or $25,000 paid on a single claim	Registered nurses; nurses with specialized backgrounds and training in each diagnostic category	Performed when necessary and early in the process	Cost incorporated into cost of review program, or purchased separately on a fee-for-service basis
Metropolitan[3]	Diagnosis list and/or claims for a confinement equal to or greater than $20,000	Registered nurses with specialized backgrounds; physicians and social workers used as consultants	Performed when necessary	Fee-for-service
CNA/Continental Assurance Company	Precertification of hospitalization continued stay review; diagnosis list and/or claims of $50,000 or more; more than two hospital admissions within 6 months	Registered nurses and rehabilitation specialists	Arranged through local case management vendor	Cost factored into cost containment program
Lincoln National	Diagnosis list and/or annual claims of $15,000 or more	Registered nurses	Arranged through local vendor	Cost factored into premiums
New York Life	Diagnosis list and/or cases with at least 21 days hospitalization	Registered nurses with home care and acute hospital experience	Routinely performed	Cost factored into premium for policy-holders; fee-for-service for administration clients
Principal Financial Group (formerly known as Bankers Life of Iowa)	Diagnosis list and/or claims exceeding $5,000 within the first 30 days of hospital confinement	Registered nurses with specialization	Performed when appropriate	Cost factored into premium or service fee

[1]Size based on dollar value of total premiums earned less dividends.
[2]Service provided by Intracorp Inc., a subsidiary of CIGNA.
[3]Service provided by Corporate Health Strategies, a subsidiary of Metropolitan.

SOURCE: (Henderson, Bergman, Collard et al., 1988).

the company may be willing to pay for the service, even in cases in which there is little likelihood of savings.

Once the patient is accepted into management, a lengthier, more formal assessment takes place. Information is gathered from the patient's physician(s), other medical providers, and family members. As shown in Table 1, programs vary in how this information is gathered. Although some use on-site assessment, performed by either the case manager or a nurse contracting with the program, others rely on information gathered over the telephone or contained in medical records. Many programs have come to the conclusion that an on-site assessment is not warranted in every case, because in uncomplicated cases it can add unnecessarily to program costs, while not greatly improving the quality of information. In cases where the clinical nature of the patient's condition or the family or living situation is complicated or unclear, a site visit may be the only way to obtain needed information about the case.

Plan development and implementation

The assessment process culminates in the development of a case management plan. This plan specifies the type and sequence of medical and supportive resources required to optimize the patient's treatment at the lowest possible cost. The plan sometimes also includes goals and objectives for treatment and the expected amount of time needed to reach these goals. Case manager training, experience, and access to information about treatment alternatives undoubtedly influence the quality of the case management plan. Most programs use registered nurses as case managers (Table 1), but programs differ as to whether or not cases are assigned according to nurses' specialty training.

The case management plan also addresses the problem of how to obtain funding for needed services that are not covered in the patient's plan. Examples of alternative services include hospice care, home attendant care, equipment (e.g., apnea monitors), supplies (e.g., specialized nutritional formula), transportation, and home modifications. Case management programs differ in their willingness to seek actual modifications in the patient's benefit plan. Some programs, particularly those offered by health management firms, make suggestions about alternative services and possible funding sources (e.g., charitable agencies or public programs). Insurance-company-based programs that are providing the service to accounts they underwrite are more likely to be able to perform plan modifications. Because the ability to pay for alternative services may be the characteristic that most distinguishes case management from simple discharge planning or utilization review, this distinction among vendor types may be important.

An innovative feature of some case management plans is the determination of which goals were reached at the expected times, which were not, and the reasons why not, where appropriate. For example, a planned discharge date may have been missed because of a change in the patient's clinical status (medical reason); because of the unavailability of the appropriate home care (service-related reason); or because of a change in the ability of the patient's caregiver to have the patient at home (support-related reason). Documentation of these causes facilitates analysis of the obstacles to successful implementation of case management. Accountability to the purchaser is also increased.

Case management closure

Cases are closed for a variety of reasons: the patient's medical condition has stabilized and case management goals have been achieved; the patient or family chooses to cease participation; the purchaser decides that case management has been involved long enough; or, in some instances, the patient dies.

Savings potential

Little objective information is available on the cost effectiveness of case management. So far, most of the "evidence" on cost savings comes from vendors who tend to report experiences with a few specific patients. It is not clear whether or not these anecdotal findings can be extrapolated to represent all managed patients.

Employers are usually ambivalent about the ability of their case management program to save money. They are frequently skeptical about the cost/savings ratios quoted by vendors. When questioned, one corporate benefits administrator stated that "[the evidence for savings] depends on the case. [It is] very difficult to know what would have happened without [case management]. In some cases there are clear gains while others appear to cost more than save. We're doing it to help the employee and have faith that over time we will have a net saving." (Walsh, 1987).

Case management proponents claim the service can achieve cost reductions in both the short and long run. In the short term, they point to specific activities coordinated or facilitated by case management. These include reducing the length of stay in the inpatient setting; transferring the patient to a similar, but lower cost, inpatient alternative; and reducing the cost of the home care program. Long-run savings can be achieved by preventing readmissions through the provision of preventive services and decreasing future health care needs through maximizing the patient's recovery level.

Although case management clearly has the potential to decrease costs through these means, questions remain about how often these benefits actually occur in the cases managed by any one program. Moreover, even if case management takes place, it is difficult to know whether or not in its absence the activity may have been coordinated by the primary physician, hospital discharge planning service, a public social service agency, or the patient's family. Because case

management is a relatively expensive service to provide, the benefits from the program should at least equal the costs.

The cost-effectiveness issue needs to be addressed through studies that compare cost savings to program costs. Studies are also needed to determine which patient, program, and environmental variables are linked to successful management. Cost-effectiveness studies can only be rigorously performed through a comparison of the costs of managed patients to the costs of similar unmanaged patients over a fairly long timeframe, for example 1 to 5 years. To be truly comprehensive, costs measured should include not only health care claims but disability and workers' compensation claims and costs due to productivity losses. Unfortunately, at the present time longitudinal data of this type do not exist.

To shed light on the cost-effectiveness issue, we studied the program records from a group of 244 patients. Of this total, 82 were infants or young children, 50 were patients with traumatic head injury, 44 were patients with spinal cord injury, and 68 had primary diagnoses of terminal cancer or AIDS. Demographic and diagnostic data for the four types of cases are presented in Table 2. These patients represented virtually all cases in these diagnostic categories managed by one insurance-company-based case management program from 1984 through 1986. These diagnostic categories accounted for approximately 50 percent of the program's active caseload in that time period.

Each of the 244 cases was reviewed for evidence of short-term health care claims cost savings. Such savings were judged to have occurred when the case record clearly stated that the management program was instrumental in effecting the following: earlier-than-anticipated discharge from the acute care hospital; earlier-than-anticipated discharge from another inpatient facility; transfer to a less expensive facility; or reduction of the level of intensity of home care.

Cases were also reviewed for the likelihood that long-term savings would result from the care plan instituted by the management program. Potential long-term savings were divided into four categories: prevention of future medical complications for the patient; prevention of future psychological complications for the patient; prevention of future medical complications for a family member; and prevention of future psychological complications for a family member.

Dollar values were attached to the estimated short-term savings categories. These values were obtained by multiplying the expected days of prevented hospitalization, visits, or tests, by the average price for the service in the region in which the patient was receiving care. No dollar values were attached to the savings in the long-term categories because precise judgments about prevented utilization could not be made. Case management costs were derived by multiplying the number of hours billed to the corporate client by $100, the average charge of the case management services over the time of the study.

Two researchers independently reviewed each case for the presence of short-term and potential long-term savings. More than 90 percent of the time, the researchers agreed in their assessment. When there was disagreement, a third researcher broke the tie. The cases judged by this process to have short-term savings underwent another review by physician

Table 2

Number and percent of managed care patients in four selected categories, by diagnosis: 1984-86

Patient characteristic	Diagnostic category							
	Spinal cord injury[1]		Head injury[2]		Infant prematurity[3]		Cancer/AIDS[4]	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total	44	100	50	100	82	100	68	100
Sex								
Male	26	58	33	66	42	51	39	57
Female	18	42	17	34	40	49	28	43
Race								
White	28	64	43	86	51	62	54	79
Black	5	11	3	6	5	6	1	2
Other/unknown	11	25	4	8	26	32	13	19
	Mean age in years							
	29		29		.83		46	

[1]The distribution by principal diagnosis was: paraplegia/quadriplegia, 47 percent; spinal injuries, 42 percent; other, 9 percent; and dissecting aneurysm, 2 percent.

[2]The distribution by principal diagnosis was: cerebral hemorrhage, 47 percent; brain injuries, 27 percent; brain lesions, 10 percent; anoxic brain damage, 8 percent; and other, 8 percent.

[3]The distribution by principal diagnosis was: Prematurity and slow growth, 52 percent; other congenital anomalies, 23 percent; respiratory conditions, 13 percent, other newborn conditions, 7 percent; and cardiac/circulatory anomalies, 5 percent.

[4]The distribution by principal diagnosis was: malignancy of brain and spinal cord, 29 percent; other, 21 percent; immune system deficiency, 15 percent; malignancy of blood and blood-forming organs, 7 percent; malignancy of breast/female reproductive tract, 6 percent; malignancy of bone and cartilage, 6 percent; malignancy of gastrointestinal system, 6 percent; malignancy of respiratory system, 4 percent; and malignancy of genitourinary system, 3 percent.

NOTE: AIDS is acquired immunodeficiency syndrome.

specialists familiar with the treatment involved. The final judgment as to the magnitude of the cost savings achieved by the program in each of these cases was made by the physicians.

Cost effectiveness results

Based on this review process, one-third of the cases (81 of 244) were judged to have short-term savings. This proportion varied by diagnostic category: case management achieved the highest proportion of short-term savings with cases in the cancer/AIDS category (42.6 percent) and the lowest in the spinal cord injury group (24.4 percent). Potential long-term savings were found in almost 60 percent of cases. More than two-thirds of the cases in the spinal cord injury, head injury and high-risk infant categories had potential long-term savings, but these were found in only one-third of the cancer/AIDS cases. This latter finding is because of the poor patient prognosis and short life expectancy in many of these cases.

Data on savings achieved and costs incurred by this case management program for the sample of 244 patients are shown in Table 3. For these patients, estimated short-term costs would have been approximately $1.85 million higher without case management. To achieve these savings, corporate clients were billed almost $1.52 million for the service. The return on investment, therefore, was slightly over 1. Because this return is based on short-term expected savings only, however, it can be considered a low estimate.

Case management would produce a much higher return if the service could be targeted to cases in which short-term savings are realized. As shown in Table 3, if the case management costs for only these cases are considered, the return on investment is almost 4 for all cases and nearly 6 for head injury cases.

Conclusion

Case management programs are currently offered by a broad array of insurers and health management firms and are rapidly being developed by providers, employers, and others with responsibility for the delivery or financing of care to costly patients. Although many of these programs share common goals and processes, information is lacking as to how the specific components of case management affect patient costs and quality of care.

Our survey of insurance-based programs uncovered some variations in the process of management that could lead to differences in effectiveness. Moreover, better criteria need to be developed in the areas of patient identification and assessment. Ideally, risk markers would be used to identify patients before significant costs have been incurred. Current programs place all or most of the emphasis on cases in which the insult or injury has already occurred and therefore the ability to minimize costs has already been compromised. The criteria used to assess patients' appropriateness for management should be made more explicit and assessment should be performed more systematically. Managers should be able to judge if their involvement is justified after a fairly quick, inexpensive review of relevant clinical, psychosocial, and administrative information about the case.

There is a clear need to collect longitudinal data on medical claims, disability costs, workers' compensation, and long-term care costs for case-managed patients. Only by comparing these costs to similar costs for nonmanaged patients can the true impact of the service be measured. Our preliminary examination of short-term cost effectiveness, using a criteria-oriented approach based on clinical judgment, showed little evidence for short-run cost savings when program costs were considered. However, the results

Table 3

Savings achieved and costs incurred through case management, by diagnostic category: 1984-86

Item	Diagnostic category				
	Spinal cord injury	Head injury	Infant prematurity	Cancer/AIDS	All cases
Total number of cases	44	50	82	68	244
Number (percent) of cases with short-term savings	11 (24.4)	15 (30.0)	26 (31.3)	29 (42.6)	81 (33.1)
Dollars saved on estimated claims[1]	$442,767	$609,952	$494,711	$305,820	$1,853,250
Case management costs for all cases[2]	352,606	395,704	463,011	304,420	1,515,741
Case management costs for cases with short-term savings only[2]	106,898	104,625	156,390	108,953	476,866
Return on investment for all cases[3]	1.26	1.54	1.07	1.00	1.22
Return on investment for cases with short-term savings only[4]	4.14	5.83	3.16	2.81	3.89

[1]Cases with short-term savings had dollar values attached to estimated savings achieved through prevented utilization; all other cases were assumed to have zero dollars in savings.
[2]Total hours of case management multiplied by $100.
[3]Dollars saved on estimated claims divided by case management costs for all cases.
[4]Dollars saved on estimated claims divided by case management costs for cases with short-term savings only.

NOTE: AIDS is acquired immunodeficiency syndrome.

of our analysis implied that case management will save money if the service is targeted to certain patients and if program costs are lowered. Further research is needed to determine the specific characteristics of patients suitable for management and the specific interventions that can lead to both short- and long-term cost savings.

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Recent trends in financing long-term care

by Stanley S. Wallack

There has been dramatic change in the financing of long-term care in the last few years. Major private insurance carriers have introduced long-term care insurance policies to meet some of the custodial care needs of a variety of consumer groups, including old and young retirees as well as current employees. Newer policies are tying coverages more closely to a measure of disability that reflect the ability of persons to live independently. Insurers, consumer groups, and policymakers have come to understand the importance of developing innovative financing mechanisms that emphasize prefunding and cash accumulation to make policies more affordable and more desirable to a broader spectrum of the aged and nonaged population.

Introduction

In the last few years, dramatic changes have occurred in the private long-term care insurance market. The major commercial insurance companies, Blue Cross/Blue Shield plans, and numerous regional companies have introduced long-term care (LTC) insurance plans. In fact, there are twice as many policies today as there were just 2 years ago, and more than 70 companies currently offer products that meet the National Association of Insurance Commissioners' (NAIC) criteria for classification as a LTC insurance product (NAIC, 1986; Task Force on Long-Term Health Care Policies, 1987). These products are being marketed largely to individuals, but an increasing number of companies are either offering, or considering making available, group products to active employees as well as to retirees on an employee-pay-all basis. Group products for nonemployer clients such as continuing care retirement communities (CCRC's) and religious or professional associations, are also emerging. Still, there are only about 500,000 or so policies in force, meaning that less than 2 percent of all elderly have any long-term care insurance protection.

At the same time that the private market is developing, the public sector is displaying a renewed interest in the financing and delivery of long-term care services. Although approaches at the State level vary, a common objective is to encourage the growth in private long-term care policies. If designed appropriately, such an expansion will lower State expenditures on long-term care by reducing the number of individuals who use their assets and income and thereby "spend down" to become eligible for Medicaid. The success of private insurance programs in reducing Medicaid depends on who purchases policies and how much protection is provided. A recent Brookings Institution study estimated that the largest Medicaid savings in the year 2020 would occur from a policy with only 1 year of nursing home coverage because of its greater market protection (Rivlin and Weiner, 1988).

At the Federal level, a uniform policy has not emerged. Some policymakers favor tax changes or other incentives to encourage the development of the private insurance market. Others favor social insurance, pointing out that the cost of purchasing private policies is prohibitive for those over age 75 as well as for those with low incomes. In any case, it is important to note that the rationale for increased Federal involvement in the long-term care finance arena has shifted in the last decade from market failure i.e., unknowledgeable consumers and no suppliers) to equity considerations. As a result, public sector involvement in long-term care financing is likely to depend on how well and not whether private insurance can protect the majority of the elderly from the devastating effects of disability (Rivlin and Weiner, 1988). The long-term care problem was recognized more than 10 years ago, but there were no private long-term care financing insurance plans at that time to point towards (U.S. Congressional Budget Office, 1977).

Now that the terms of the debate have shifted to a greater focus on equity, the balance between private and public long-term care insurance will need to be politically determined. One thing is certain: regardless of the sponsor, public or private, insurance protection for long-term care services will expand to cover the aged and nonaged population.

This article reviews the impetus behind these trends and the evolution of private long-term care insurance policies. Next a framework for evaluating the major components of private long-term care financing programs is presented. In the final section, the pivotal role of the public sector in determining the level of private financing is discussed.

Risk-pooling and prefunding

After the passage of Medicare and development of supplementary medical insurance, there evolved a recognition that the major cause of catastrophic expenditures among the elderly was chronic illness that led to the need for personal care services over a long period of time (U.S. Congressional Budget Office, 1977). Such services are provided either in nursing homes or in the community by family and friends or by paid caregivers.

Long-term care historically has been financed either by private out-of-pocket payments or by Medicaid

Reprint requests: Stanley S. Wallack, Ph.D., LifePlans, Inc., Two University Office Park, 51 Sawyer Road, Suite 400, Waltham, Massachusetts 02154.

Table 1

The risks and costs of nursing home care

Length of stay in nursing home	Percent probability of entering a nursing home	Average cost at $80 per day
Will not enter a nursing home	57	0
1 day-1 month	13	$1,200
1-3 months	9	4,080
3-12 months	9	18,000
1-2 years	4	43,000
2-5 years	5	102,200
More than 5 years	4	204,000

SOURCE: (Cohen, Tell, and Wallack, 1986).

programs. Medicaid currently pays more than 40 percent of nursing home expenditures, and more than 60 percent of all nursing home residents are on Medicaid (Rivlin and Weiner, 1988; U.S. General Accounting Office, 1979). Given the distribution of income and assets among the elderly, most (67 percent) could not afford to be private paying patients in a nursing home for even 1 year (Cohen et al., 1987). Nursing home costs are, thus, catastrophic on the basis of current income. They also are catastrophic in terms of dollar expenditures.

The distribution of lifetime nursing home costs for those over 65 years of age is presented in Table 1. Approximately 40 percent of the general population over age 65 are likely to enter a nursing home during their lifetime, and, of these, most stay less than 1 year (Meiners and Trapnell, 1984). As a result of this distribution, about 15 percent of the population account for 90 percent of expenditures, and the 4 percent that stay for more than 5 years account for approximately 50 percent of the expenditures (Cohen, Tell, and Wallack, 1986).

When a small percentage of people face a high probability of incurring a large expenditure, risk-spreading or insurance is an attractive option. With all individuals paying an equal amount, the catastrophic costs for a few could be avoided. The likelihood of needing nursing home care rises significantly above age 65. Thus, the affordability of risk-spreading or risk-pooling and the market penetration potential of a private insurance program both fall with age.

For the over-65 population, less than 5 percent are in a nursing home at any time. The rate, however, varies dramatically by age. About 1 percent of those 65 years of age, 5 percent of those 75 years of age, and more than 20 percent of those 85 years of age or over are in nursing homes. If the total annual cost of a year in a nursing home—say $25,000—were shared by all persons 65 years of age on a pay-as-you-go basis, then each would have to contribute $250 a year or about $20 a month. If the same approach was used for persons 85 years of age or over, the average cost would be more than $6,000 a year or $500 a month. Clearly, broad affordability requires that policies be

Table 2

Percent of retirees who have the resources to pay for insurance programs that could protect them against the costs of long-term care

Premium payments	Percent who could afford
$25-49	60-80
$50-99	50-70
$100-125	30-60
$125-150	25-50
$150 or more	20-35

SOURCE: (Cohen et al., 1987).

risk-pooled across age groups and/or prefunded at younger ages.

Private insurance companies are following the principles of life insurance by establishing the premium based on the age at the time of initial purchase. One result of this approach is that the premiums more than double every 10 years, for example, from age 50 to age 60.[1] In addition to being priced relative to one's age, private long-term care policies include some underwriting criteria, which makes some individuals ineligible because of illness or disability. Public sector intervention, through subsidies, mandates, or social insurance could provide coverage for the disabled and those unable to afford premiums.

The potential affordability of long-term insurance for all those over 65 years of age is shown in Table 2. The lower bound assumes 10 percent of the elderly's discretionary income is used for the purchase of long-term care insurance and the upper bound assumes 25 percent is used.

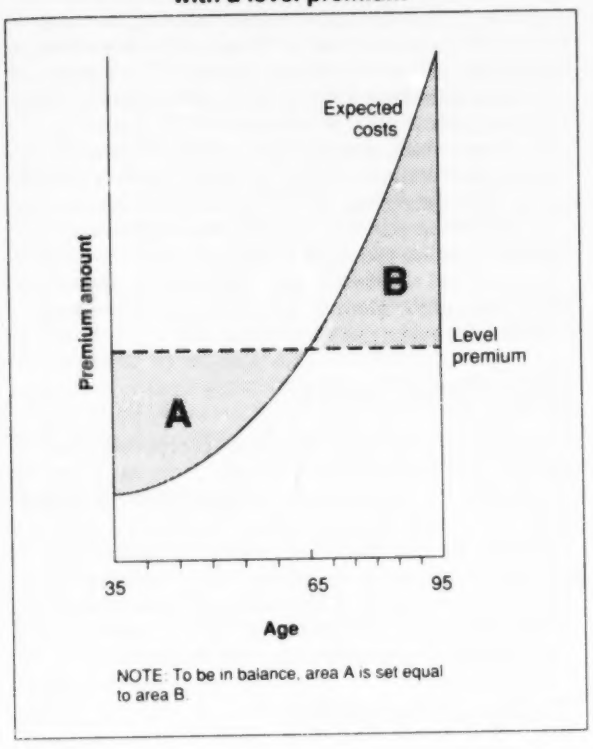
LTC insurance is not beyond the financial means of most elderly. At least one-third of all elderly could afford policies costing $100 per month, and more than one-quarter could afford higher premiums for fairly comprehensive products. These estimates are somewhat conservative, since they assume that only a small portion of discretionary resources would be used to purchase long-term care insurance. However, about 75 percent of the elderly own their own homes, most of them with no mortgages, so their financial capacity far exceeds their current income. There are several mechanisms emerging through which equity in homes or life insurance could be converted into revenue streams for purposes of purchasing LTC insurance.

Risk-pooling across an elderly cohort makes sense. Prefunding and the participation of younger age groups in insurance risk-pools are also important if we are to greatly expand the affordability of private long-term care insurance. Prefunding of long-term care is critical for each individual age cohort and for society as a whole if done on a social insurance basis.

[1]The level of the monthly rates of major companies, such as AETNA, Travelers, and American Association of Retired Persons (AARP)/Prudential vary, but a similar pattern is reflected in the rates that have been published to date. For example, the AARP/Prudential policy has rates of $20.00 per month at age 55 and $135.00 per month at age 75.

Figure 1

Prefunding long-term care liabilities with a level premium



NOTE: To be in balance, area A is set equal to area B.

Today, one out of nine individuals are over 65 years of age. In 40 years, the ratio will increase to one out of five. The advantage of beginning the prefunding at an early age is shown in Figure 1. The flat line depicts the level premium for someone who purchases an insurance plan at age 35. By paying more than the expected costs at younger ages, a fund builds up to pay the higher costs as one ages. The impact on rates is quite dramatic. For example, if an individual purchased a policy at age 35, the required premium would be less than $15 per month to cover 3 years in a nursing home at $50 per day and 2 years of home health care. By waiting until age 65, the premium rises to about $60 per month.

Prefunding during employment or at the time of retirement is critical if private financing is to be maximized. The willingness of some individuals to set aside small amounts of money on a monthly basis has been shown by the willingness of employees, about 10 to 15 percent, to participate in the initial employer-based group programs. Tax law changes that would allow the use of pretax dollars for premium payments could make this accumulation more attractive.

Evolution of private insurance

A major advantage of having the private market develop long-term care policies is that purchasers help determine the general form of the products available on the market. Although choosing between competing insurance plans is often difficult because of the nuances and special "twists," purchasers must view the basic product (e.g., long-term care insurance) as having value. Certainly, to sell a policy that costs $100 or more a month to a person 75 years of age, the perceived value must be significant. Recent trends in insurance offerings suggest that insurers are responding to consumer interest.

The typical LTC insurance product offered in 1986 had serious limitations. Most of these policies offered inadequate protection against catastrophic nursing home costs and provided little or no provision for either in-home health care or custodial level care. The vast majority of offerings were indemnity policies sold on an individual basis, and emphasizing skilled nursing home care (Meiners, 1984). All the plans had limits on the cost or length of coverage, or both. For example, most plans limited the nursing home benefit to between 3 and 4 years. Other coverage requirements, such as waiting periods, preexisting condition clauses, prior skilled care requirements, and prior hospitalization requirements, further reduced the extent of nursing home care covered by these policies. In effect, their emphasis on medical underwriting, medical necessity as a condition to receive benefits, and skilled level care made these policies really "super-medigap" policies, not long-term care insurance that covered custodial care needs.

As a result of the limitations and provisions of these earliest products, advertised benefit levels were usually quite deceptive. It was difficult, if not impossible, for the consumer to evaluate how much LTC benefit they might actually receive from a specific policy once all the restrictions and conditions were met. One such feature that required a 30-60 day prior nursing home stay to be eligible to receive home care benefits rendered the home health benefit virtually useless. However, some policies with this provision advertised that they provided up to 3-6 years of home health benefits.

In 1987, a second generation of LTC insurance products emerged which included several improvements over the earlier offerings. More plans offered custodial-level coverage, included home care benefits, and eliminated prior institutional care requirements. Also, more of the insurance plans incorporated consumer protection features such as guaranteed renewability and inflation protection option (Consumer's Union, 1988).

In 1988, the LTC products are offering case management and information and referral services to assist policyholders in finding providers of needed care. For some of the more innovative products, the underwriting and benefit determination criteria are moving away from medical criteria and medical necessity toward a focus on functional and cognitive disability. Although carriers are moving at different speeds, the current generation of products focus more on providing custodial and personal care services to the chronically ill. This is in sharp contrast to the industry's initial focus on skilled, medically oriented care.

The changing nature of the long-term care insurance product reflects an improved understanding among insurance companies of what long-term care really encompasses and what types of services and benefits the elderly are willing to purchase. Market surveys indicate that older individuals are, above all, seeking to maintain their independence and their current lifestyle (Cohen et al., to be published). They want support in recovering at home, and they want the financial means (i.e., insurance) that enables them to pay for needed care. Older individuals are not looking for just a nursing home benefit. Specifically, surveys suggest that there are at least three features which the elderly want (U.S. Department of Health and Human Services, 1988; Tell et al., 1987). First, the elderly want products which can provide estate protection so that there is something to pass on to their families, and they want to assure adequate income for their spouse in the event that one member needs costly care. Only products with catastrophic (deep) coverage can meet these needs. Second, the elderly also want products which will help them avoid ever having to go into a nursing home by providing meaningful home care coverage and a variety of other alternatives to nursing home care. Third, the elderly want to be assured of access to high quality care, including nursing home care and community services, should they need it. Many elderly worry more about where and how they will obtain care than about how they will pay for care.

Attributes of financing

In developing a long-term care insurance program, planners should not be thinking of creating a variant of acute health care insurance. The importance of prefunding as contrasted with the "pay-as-you-go" financing that characterizes acute care insurance has already been discussed. Conceptually, long-term care has the accumulation aspects of life insurance and pensions. Also, in terms of insurance, it would appear that a disability perspective (the loss of independence as opposed to the capacity to perform a job) is as beneficial an approach as indemnity or service benefit programs. Under a disability program, payments are keyed to the loss in function. A health insurance program ties the indemnity or service benefit payment to the use of services. Finally, because the demand for long-term care services emanates, in part, from a desire to maintain one's independence and lifestyle, the link between insurance (the paying for services) and the service itself appears closer in long-term care than in acute care. Thus, the combining of insurance and delivery suggests the development of various managed-care approaches and systems.

A well-established model of this latter linkage is the continuing care retirement community. As of 1986, there were more than 700 of these communities, which combined housing and long-term care services. They offered various amounts of risk-pooling. About one-third of these communities provided unlimited coverage for long-term nursing home care on a risk-pooled basis (Tell, Wallack, and Cohen, 1987). The age of entrants to these communities is usually in the high 70's. Other linkages between housing, services, and insurance need to be developed for these older age groups as well as younger retirees. The concept of "life care at home" developed by researchers at the Bigel Institute at Brandeis University is now in the early developmental stages in at least four sites (Tell, Cohen, and Wallack, 1987; American Association of Homes for the Aging, 1987). In this program, individuals can purchase lifetime long-term care benefits that are provided to them in their own homes by a specified network of providers. Thus, these individuals are assured of having access to the long-term care providers of their choice.

Interrelated concepts

Long-term care financing must incorporate three distinct, but interrelated, concepts. First, as discussed previously, the financing for long-term care, whether done on an individual or societal basis, must include adequate accumulation mechanisms or prefunding. Second, risk-pooling or risk-spreading is desirable because of the skewed distribution of expenditures. Third, the program must include the services that will allow individuals to maintain their lifestyles.

Funds accumulation

The accumulation of funds can occur through a dedicated individual retirement account or other form of savings that could be directed to help pay for long-term care insurance premiums. Another option is to begin the prefunding through the purchase of a long-term care insurance plan at an early age. To date, a small number of companies have been willing to allow the group marketing of plans for which employees pay the entire premium. To appeal to the active workforce, however, these programs will need to have a cash value or return of premium and/or be portable.

Other financing approaches tied to employee benefits are also possible. Group disability can be broadened to include nursing home services, and the face value of life insurance policies can be reduced by the amount of long-term care services paid for up to a specified percent of the policy. The adaptations of existing policies is a recognition of the growing market interest in finding ways to finance long-term care.

The introduction of products that allow for the accrual and transfer of accumulated funds to long-term care will depend, in part, on tax implications. For example, the tax law could be changed so as to allow an individual to withdraw funds from a pension plan and use the funds for long-term insurance without paying taxes on the income which has been earned to date, but not taxed.

Risk-pooling

We are likely to see a continuation of indemnity and service benefit programs as well as a growing interest in disability systems that have a "cash value" assigned to the insurable event. Currently, most long-term care insurance policies have as the insurable event the use of service, usually nursing home, upon the recommendation of a physician. The determination of need by a physician reflects the philosophy that was behind the development of medigap policies, that is, that the elderly needed protection from acute care costs rather than from the costs associated with chronic illness.

Underwriting and benefit determination are shifting towards an emphasis on the ability of an individual, as measured by physical and mental impairment, to take care of their personal needs. The benefit is either triggered by the assessment, like a disability payment, or is further conditioned upon the use of service.

Link to service

Because of the availability of an informal support system and the personal nature of the service provided in one's home, the risk-pooling program, whether an indemnity or disability benefit, should incorporate some aspects of service management. Although managed care programs that link the financing and delivery of care and assure access to high-quality care meet the needs of many older individuals, they entail higher start-up costs. An example of a successful managed system is continuing care retirement communities. The high start-up costs entailed in this delivery system that combines housing and long-term care are incorporated into the overall marketing and development budget. Because housing costs are so large (often $100,000 or more), the substantiated marketing costs do not overwhelm the price of the product. However, in the life care at home demonstration, the marketing and delivery system costs are major hurdles to overcome (Tell, Cohen, and Wallack, 1987).

In addition to meeting the desires of the chronically ill for providing access to services, systems that merge financing and delivery, have been shown to yield efficiencies in the use of services. Health maintenance organizations (HMO's) and, perhaps just as importantly, social/HMO's, have been shown to decrease the use of expensive hospital care and increase the use of less expensive ambulatory care (Manning et al., 1984; Greenberg et al., 1988). If more efficient care patterns result for the acutely ill, than one can reasonably expect even greater efficiencies from the coordinated care for populations with chronic care needs.

The financing issues for a population already chronically ill, whether frail elderly or the mentally retarded/disabled, is quite different. Risk-spreading is not an important feature and, therefore, public financing is more appropriate. Nevertheless, the payment to providers, whether private or public, should provide incentives to manage the care for an extended period of time. Capitation payments is one viable option. The On Lok program, which links acute and long-term care for frail elderly, effectively merges the financing for services and their delivery.

Conclusion

Although insurance or risk-pooling is the critical link in a long-term care financing program, cash accumulation and/or prefunding mechanisms, as well as service delivery provisions, must be present as well. A single organization (either public or private) could be responsible for all three elements—accumulation, risk-pooling, and services—or responsibility could be divided between organizations because these three elements are distinct and each element has a different risk associated with it. Enrollment risk, i.e., the need for an adequate number of enrollees, relates to accumulation. Incidence risk, i.e., the probability of needing long-term care services, relates to risk-pooling. Utilization risk, i.e., the intensity of care provided, relates to service provision.

Insurance companies are becoming more comfortable providing long-term care policies. However, trepidation still exists regarding the risk embodied in current plans. Nevertheless, the trend to date has been toward greater depth in benefits, and a greater breadth of benefits is occurring as well. Delivery systems are beginning to develop partnerships with insurance companies. Insurance companies that assume the incidence risk will do the underwriting and the providers of services that assume the utilization risk will have the responsibility for the management of care. The concepts of risk-sharing and risk-management is being considered by a number of long-term providers currently and should become more commonplace in the future.

Private long-term care financing and delivery policies will become better values in terms of prices and benefits as competition among companies grows. The improved products are more likely to appear first as group plans since decisionmakers, such as employers, have more knowledge and experience in this area than would elderly individuals. The number of private long-term care insurance plans certainly will grow.

The major obstacle to the widespread growth in financial protection against long-term care costs for the elderly will be enrollment in the programs that are developed. The price of the product will loom more and more important. It is with regard to accumulation or financing that the public role is pivotal.

Private programs require voluntary enrollments. Private demand appears to be quite price sensitive. When the reason for such purchase is asset protection, governmental policies, particularly Medicaid, are important. Individuals will compare the cost of spending down (2 years in a nursing home as a private patient) and the willingness to become a Medicaid recipient with the cost of purchasing a private policy. Governmental policies and activities regarding

financing, such as tax policy, mandates, and subsidies, will determine both the content of private long-term care insurance and the balance between public and private long-term care financing.

The major debate in the future over public financing is not likely to be whether the government should do more, but rather the form of the support. The challenge for the public sector is to establish a financing program that permits and encourages the development of innovative benefits and delivery models as well as flexibility in the caring for individuals with chronic disabilities. The financing vehicle could be public or private. For example, a social insurance program using disability as opposed to service payments could provide the flexibility in benefits and care patterns. Alternatively, the government could provide subsidies for the purchase of private long-term care insurance based on the income and age of the individual. The latter approach could provide the necessary financing and allow the private sector to introduce necessary innovations in both insurance and service delivery.

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Financing services for developmentally disabled people: Directions for reform

by Arnold R. Tompkins, Margaret E. Porter, and Mary F. Harahan

The Secretary of the Department of Health and Human Services established a working group to examine current Federal policies affecting the financing of services to persons with mental retardation and other developmental disabilities. This article summarizes the Working Group's Report to the Secretary. The working group concluded that Federal policies can act as a barrier to community and family living opportunities. Policy alternatives were identified that emphasize flexibility in order to provide appropriate services in a variety of settings, targeting services to the most severely disabled and fixing Federal costs.

Introduction

Prior to the 1960's, children and adults with mental retardation and other developmental disabilities (MR/DD) lived in large institutions or with their families. In general, people with severe disabilities were isolated from society and not a part of the public consciousness. Few received any services other than routine or custodial care regardless of where they lived. The past two decades have witnessed extraordinary changes in our understanding of the needs and capabilities of disabled people. Parents and other advocates have lobbied hard for services promoting individual development. Numerous lawsuits have been filed to secure the rights of people with disabilities. Some large institutions have closed. Thousands of young people with developmental disabilities have moved through the public school system and are emerging with expectations for a meaningful adult life. A new system of developmental services in the community is evolving.

A number of critics have questioned whether public policies, particularly Federal financing policies, have kept pace with these dramatic changes. The major Federal program specifically designed to finance services, the Medicaid-funded intermediate care facility for the mentally retarded (ICF/MR) program, is institution-based; to be eligible for services, individuals must be placed outside their homes and in need of active treatment and 24-hour supervision. Three-quarters of the persons served in ICF's/MR are in large, costly State facilities with an average size of 155 beds (Lakin et al., 1985, 1987).

In contrast to the relatively generous Federal financing of institutions, Federal support for family care and community-based residential arrangements is much more limited. Responsibility for these services is fragmented across a diverse array of Federal, State, and local programs.

The Federal Government's role in financing services for people with developmental disabilities was recently the subject of a major policy review within the Department of Health and Human Services. An intradepartmental working group of senior policy officials was authorized by the Secretary to examine Federal policy barriers that limit access to community-based services and to develop cost-effective policy reforms. This article summarizes the results of that review.

Reprint requests: Margaret E. Porter, Office of Social Services Policy, Rm. 410E, Hubert H. Humphrey Building, 200 Independence Avenue, SW., Washington, D.C. 20201.

Population characteristics

People with developmental disabilities have severely handicapping conditions that occur prior to birth, in childhood or in adolescence, which limit functioning in several major life activities. Although there is limited data on the prevalence of developmental disabilities, it is generally agreed that approximately 2.4 million individuals, or 1 percent of the total population, could be considered developmentally disabled and potentially in need of long-term support (Abramowicz and Richardson, 1975; Tarjan et al., 1973). Of this population, about 250,000 live in residential facilities including 145,000 people in ICF's/MR. Another 40,000-60,000 are in nursing homes. The remainder live with their families, on their own, or in other residential arrangements such as personal care homes (Lakin et al., 1985).

The working group identified a subgroup of the population as most in need of specialized assistance in order to reach their developmental potential. This group is comprised of persons functioning within the severe or profound range of mental retardation or other developmentally disabling conditions with comparable levels of severity. There are an estimated 450,000 people in this subgroup including: 405,000 people (90 percent) with a diagnosis of mental retardation; 180,000 (40 percent) children, most of whom live at home and receive their primary services through the public school system; 270,000 (60 percent) adults; and 110,000 people (primarily adults) who are already being served in ICF's/MR (Lakin et al., 1985). The working group recommended that a limited entitlement to services to this particularly vulnerable population be considered.

The service system

The MR/DD service system is comprised of several public agencies at multiple levels of Government and a mix of public and private service providers.

Although Federal involvement is important, States continue to play the major role in shaping system characteristics, particularly the relative emphasis given to community and institutional services. Some States have moved aggressively toward a community-based service system and others rely heavily on large facilities. States also use Federal Medicaid dollars differently. For example, Minnesota has developed many small-scale ICF's/MR; Nebraska does not use Medicaid for its 174 group homes but does for its single large State facility (Jaskulski and Weader, 1987; Lakin et al., 1987).

The MR/DD services system can be categorized in terms of three types of living arrangements: large facilities (16 beds or more); community facilities (fewer than 16 beds); and family settings. Although living arrangement does not always determine the type of services an individual receives, it can be a major factor in shaping access to services. Regardless of living arrangements, developmentally disabled people require an array of services and supports including income maintenance, habilitation (e.g., training in self care), education, and vocational training. It is important to note that these developmental services are quite distinct from traditional long-term care that is largely custodial.

The research evidence

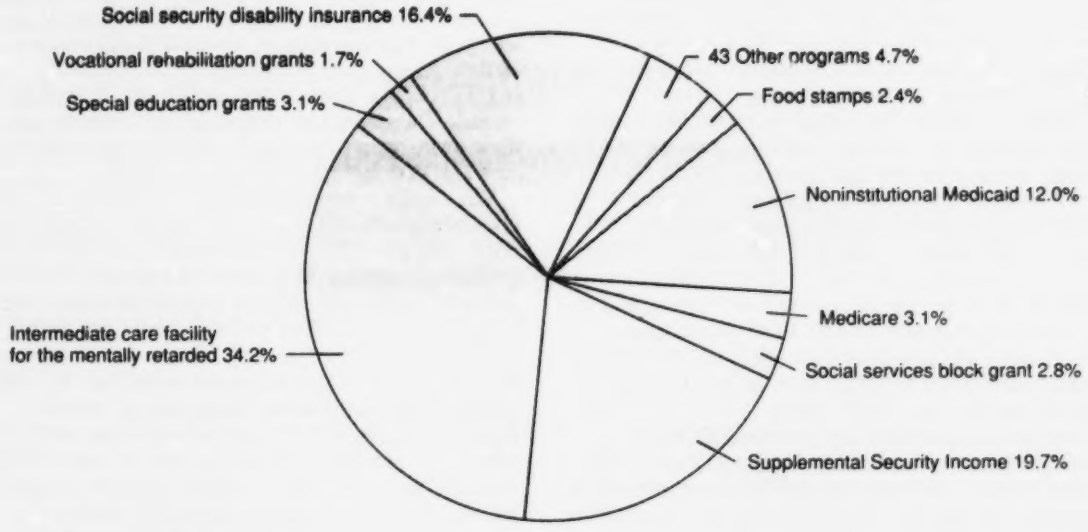
Research evidence indicates that advances in adaptive behavior and independent living skills are strongly associated with community living arrangements and learning experiences that promote independence and opportunities for interaction with nondisabled people. Research also demonstrates that innovations in training techniques and adaptive devices can enable those with severe disabilities to work productively and live successful, increasingly independent lives. (Close, 1977; Kushlick, 1975; Conroy, et al., 1982; Rosen, 1985; Noble and Conley, 1987).

The Federal role

The primary roles of the Federal Government are financing of services in partnership with State governments and providing leadership, particularly in establishing and articulating priorities and quality assurance. In fiscal year 1985, Federal expenditures were estimated at $7.7 billion or more than 50 percent of total public financing for the MR/DD population.

Figure 1

Total Federal spending of $7.773 billion for MR/DD, by program: Fiscal year 1985


Social security disability insurance 16.4%
Vocational rehabilitation grants 1.7%
Special education grants 3.1%
43 Other programs 4.7%
Food stamps 2.4%
Noninstitutional Medicaid 12.0%
Medicare 3.1%
Social services block grant 2.8%
Supplemental Security Income 19.7%
Intermediate care facility for the mentally retarded 34.2%

NOTE: MR/DD is for mentally retarded and/or developmentally disabled.
SOURCE: Braddock, D.: *Federal Policy Toward Mental Retardation and Developmental Disabilities.* Baltimore, Maryland. Paul H. Brookes Publishing Company, 1987.

A variety of Federal sources fund benefits and services as illustrated in Figure 1.

Two landmark pieces of Federal legislation have profoundly influenced the MR/DD services system. The Education for All Handicapped Children Act of 1975 mandates that States provide handicapped children with a free and appropriate education in the least restrictive setting. Guaranteeing access to education for even the most severely disabled has served as a significant disincentive to institutionalize children.

The other important legislative initiative is the Social Security Act amendments establishing the Medicaid ICF/MR program. Since its establishment in 1971, this program has become the largest single source of financing for MR/DD services. Originally created to provide health or rehabilitative services to mentally retarded people in State institutions, it has been a significant force in upgrading the quality of institutional care. Several features of the ICF/MR program are particularly noteworthy:

- expenditures accounted for almost 13 percent of the total Medicaid budget in fiscal year 1986 or $5.2 billion.
- relatively few people participate; there were about 145,000 people served in 1986 at an average annual cost per person of $35,000.
- nearly 90 percent of all State mental retardation institutions participate in the ICF/MR program (20 years ago, the same institutions were all State funded), and
- nearly 90 percent of ICF/MR expenditures go to large facilities (Burwell, 1987).

Supplemental Security Income (SSI) is the major source of cash assistance for developmentally disabled people living in the community. More than $1.5 billion was paid in 1985 to more than 600,000 persons with mental retardation with the average Federal payment about $250 per month. Social security disability insurance (SSDI) is the other significant cash benefit program for this population.

The Medicaid Home and Community-Based (HCB) Waiver program is used increasingly by States to support community care alternatives and to prevent inappropriate placement in institutions. In 1986, the Federal share of MR/DD waivered services was $110 million with 24,000 participants (Burwell, 1987).

There are a number of other relevant Federal programs including vocational rehabilitation and various programs administered by Housing and Urban Development, Department of Labor, and the Department of Agriculture that serve persons with developmental disabilities.

Working group findings and alternatives

Based on its review of Federal policies affecting persons with mental retardation and other developmental disabilities, the working group concluded the following:

- The primary Federal funding source for MR/DD services, the ICF/MR program, has not kept pace with significant changes in the field of developmental disabilities.
- The most important Federal support for the non-institutionalized population, the SSI and SSDI programs, are not designed to pay for a full range of MR/DD services.
- Lack of Federal participation in the financing of community services is widely perceived as a barrier to independence, productivity and community integration of developmentally disabled individuals.
- Medicaid, the primary funding source for MR/DD services does not appear to be a promising vehicle for Federal policy reform.

The working group identified two policy alternatives. The first would significantly restructure Federal financing and eliminate the ICF/MR program. The second outlines incremental changes within Medicaid. A third alternative, the Medicaid Home and Community Quality Services Act (S. 1673), was considered but rejected because of its cost implications.

Comprehensive reform proposal

This option would establish a new Federal program outside Medicaid by pooling dollars spent on the MR/DD population from (at a minimum) the ICF/MR Program, the Home and Community-Based Care waivers, and the personal care option under Medicaid. The new program would finance a range of residential, habilitative, vocational, and supportive services to persons with developmental disabilities.

Major features are:

Organization and Administration—A single Federal agency would administer the new program with authority to establish State allocation formulae, mandatory eligibility and service coverage requirements, and quality review and assurance mechanisms.

Eligibility—A mandatory population, limited to persons with severe or profound mental retardation or an equivalent developmental status, would be entitled by statute to receive a core set of services regardless of age or income. States would also be able to claim Federal financial participation (FFP) up to a specified ceiling for any other DD group they chose to designate.

Services—The mandatory population would have access to a core set of services including case management, residential services, respite and vocational/developmental services. Beyond these, States would have broad flexibility in the use of Federal matching funds and could choose the mix of institutional and community services most suited to their situation. Health care would continue to be provided through Medicaid.

Cost sharing—Cost sharing would be mandatory. Parents of dependent children under age 22 would be required to share costs based on ability to pay. Adults

with income from employment or public benefits would also contribute to the costs of services.

Financing—States could claim Federal financial participation (FFP), for eligible expenditures up to a pre-determined ceiling established by the Department for each fiscal year. The aggregate ceiling for the first year of implementation would equal projected Federal expenditures for that year, based on the Medicaid Forecasting System, for the ICF/MR, Medicaid waiver, and other long-term services for the MR/DD population as well as SSI payments for this population. After the first year, each State's ceiling will be adjusted for population growth and inflation using the Average Wage Index for social security-covered employment. Through 1993, each State spending less than the national per capita mean for MR/DD services will have greater increases in their ceiling than States which spend above the mean. This is intended to achieve greater equity in State per capita MR/DD spending.

Quality—The Federal administering agency would establish core requirements for States including: clients' rights and protections; access to individual case management; comprehensive functional assessments; individual program plans; uniform performance accounting systems; client monitoring programs, and minimum health and safety standards.

Projected program participation—An estimated 450,000 persons with severe or profound mental retardation or comparable developmental deficits would be entitled to services under the reform proposal, about 345,000 of whom already receive Medicaid-funded services. Approximately 179,000 persons in this mandatory population will be under 21 years of age and living at home with minimal service needs beyond special education. States would be able to serve, at their discretion, any other developmentally disabled individuals as resources permit.

Selected Medicaid changes

A second option developed by the working group proposes modifications to Medicaid, particularly the ICF/MR program. The intent is to make the Medicaid program more responsive to individual needs and to increase opportunities for services in community settings.

Strategies include:

Limiting ICF/MR eligibility—Objective criteria for ICF/MR placement could be established to restrict admission to individuals whose functional impairments are such that they require active treatment. A 6-month transition period for those in ICF's/MR not needing that level of care would be provided. New admissions to large ICF's/MR would be restricted and admissions of children under 21 years of age would be limited to family-like environments.

Reforming reimbursement—Payments for ICF/MR services vary dramatically among the States, from $22,000 annually to almost $65,000. A comprehensive study of the cost of providing ICF/MR services could be conducted to provide a data base for defensible payment reforms. Experimentation with prospective client-centered payment systems would be pursued.

Improving quality assurance mechanisms—In response to the apparent conflict of interest resulting from States surveying and certifying their own facilities, ICF's/MR could have the option to choose an approved accrediting body to conduct the necessary surveys for certification. Federal surveyors would survey and certify public facilities with more than 15 beds, or at a minimum, impose Federal certification on public facilities.

Resident earnings—Currently only a small amount of earnings of ICF/MR residents may be retained for their personal use. This reform would allow residents to retain a larger portion of their earnings while contributing toward their room and board. Eligibility for ICF/MR services would continue until a resident's earnings were adequate to support living arrangements outside the ICF/MR.

Summary and conclusions

The working group found that current Federal policies can act as a barrier to community and family living opportunities. Future Federal reform efforts should focus on maximizing program flexibility at the State and local levels to allow a range of residential and developmental services. Federal resources should be targeted to those with the most severe disabilities. Finally, Federal program costs should be controlled rather than open-ended in order to provide a range of community services without enormous increases in public cost. The working group further concluded that the Medicaid program, with its health and welfare orientation, is an inappropriate vehicle for future reform.

With these conclusions in mind, the Department has developed a legislative proposal based on the working group's comprehensive reform proposal. Although no major legislation may be passed during this Congressional session which would reform the financing of services to persons with mental retardation and other developmental disabilities, the continued high level of interest in this policy area seems to indicate that it is only a matter of time before some type of reform is enacted.

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Reforming long-term care financing through insurance

by Mark R. Meiners

Until recently, insurance for long-term care was not viewed as feasible. This perception has changed dramatically in the past few years. Several models of long-term care insurance have begun to be tested. Although the application of insurance principles to long-term care is still new, the emergence of private market interest in developing long-term care insurance has been a catalyst to renewed public-policy support for reforming the way we pay for long-term care. States, in particular, have become interested in developing public-private partnerships to support the emergence of long-term care insurance that could help relieve the mounting pressure on Medicaid budgets.

Background

The recent push to develop protection against catastrophic health care expenses has helped to focus attention on the need for better long-term care financing options. Recognition of long-term care as a major cause of catastrophic expense, however, is not new. In the late 1970's, during the previous cycle of interest in catastrophic health care costs, the Congressional Budget Office issued a report that identified the need for nursing home care, a major component of long-term care, as the single most significant cause of catastrophic expenses (Congressional Budget Office, 1977). What is new today is that long-term care has begun to be accepted as an insurable risk.

As little as 10 years ago, insurance principles were generally perceived as not applicable to long-term care. Then, as now, Medicare, did not address the long-term care problem. The burden of long-term care expenses fell first to individuals and their families until their resources were exhausted and then to the Medicaid program. Private-market insurance options have now begun to emerge, and there is a wave of renewed public-policy interest in dealing with the long-term care financing problem. Recognition of long-term care as an insurable risk has, for the first time, provided a framework for considering the components of the long-term care financing problem. Risk-pooling mechanisms provide individuals the opportunity to pay for their long-term care needs in a more reasonable way than the all-or-nothing situation that exists when individuals have to self-insure.

A growing debate has developed as to how insurance options for long-term care should be structured and who should sponsor them. The presence of this debate is now clearly evident on Capitol Hill. The recent legislative session saw numerous proposals that look to insurance as a major vehicle for the reform of long-term care financing. The approach to encouraging risk pooling as well as the benefits, premium structures, and proposed sponsors vary widely. This variation demonstrates the wide range of possible approaches for insurance program development, and it indicates the need to further investigate the possible components of a broad-based insurance program. The emergence of private-market interest in developing long-term care insurance has been a catalyst to the current thinking.

Several models have emerged

Basic models of long-term care (LTC) insurance include freestanding indemnity products, social health maintenance organizations (S/HMO's), and continuing care retirement communities (CCRC's). Each of these models differs along a variety of dimensions, including the comprehensiveness of the benefit package, the management of risk, and the organizational structure. The freestanding indemnity model typically focuses on the long-term care risk alone, with emphasis on nursing home benefits and more modest coverage of home health care. The S/HMO model expands the concept by integrating a broader array of chronic-care benefits, with acute-care benefits in a managed-care environment. The CCRC model (in its broadest configuration) expands the concept further by providing sheltered housing as well as a comprehensive health care guarantee. Each model is undergoing testing, revisions, and further development.

Current market

The market for all forms of LTC insurance is still new and not well developed. The recent congressionally mandated report of the Task Force on Long-Term Health Care Policies found that more than 70 products are now being sold (U.S. Department of Health and Human Services, 1987). Although many of these became available only recently, the same report found some 420,000 policies in force. This represents dramatic growth, compared with a few years back. Nonetheless, the market is still very small relative to the need for such protection.

Most of the policies are the freestanding type. Chronic illness rather than acute illness or post-acute recovery is the focus of the insurance, so the benefits are designed to address the need for personal assistance with basic activities of daily living (often termed intermediate or custodial care) in addition to skilled nursing and therapeutic services. The benefits are designed to pay for an extended spell of illness.

Reprint requests: Mark R. Meiners, Ph.D., Center on Aging, Room 1240A, PERH Building, University of Maryland, College Park, Maryland 20742-2611.

These are the key features that distinguish long-term care insurance from the acute care related nursing home and home care benefits of Medicare and Medigap insurance. Also, the policyholder is not locked into a particular provider system, as is the case with the S/HMO's and CCRC's.

The freestanding type of product has captured much of the initial interest in dealing with the problem of financing long-term care. By focusing on the long-term care risk alone, it is somewhat easier to define what constitutes an affordable set of long-term care benefits. However, features of the S/HMO and CCRC approach are receiving close scrutiny. By integrating the financing mechanism with the delivery system, this approach may be better suited to including home and community care in the benefit package and to controlling the risk with case management mechanisms.

Until recently, most of the insurers involved in selling long-term care insurance were small companies. This has begun to change, however, and some of the largest insurance companies are actively marketing their own products. Most are sold on an individual basis, but there is strong interest in developing group marketing strategies. One approach that has emerged in the past year is for employer groups to actively facilitate the marketing of affordable options for their workers and retirees on an employee pay-all basis.

Further development needed

In assessing the products currently available, it is easy to find fault. Many tend to perpetuate the institutional bias that prevails in our public programs, they use restrictive risk-management techniques; and the better ones, although not exorbitant, are also not cheap. All these factors serve to limit the market for such protection. Nonetheless, there has been a concerted effort to address the limitations, and there are products now available that deserve serious consideration (Meiners and Greenberg, forthcoming).

Further research and development will be necessary to achieve the full potential of private market LTC insurance. Products sold to groups before retirement that use some form of managed-care environment are good candidates for overcoming the major barriers to such a market. Insurers should be encouraged to offer Medicare supplemental options that include long-term care benefits. The interest on the part of some Medicare-HMO's in offering LTC insurance to their members is a move in this direction worthy of note. Revisions to Medicare may encourage medigap insurers to adjust their products by providing long-term care benefits.

Further opportunities to expand the market for LTC insurance include reinsuring retirement communities for their chronic care guarantee and developing similar risk pools among community members preferring to stay in their own homes. Both of these strategies are appealing because they involve group sales where all parties to the agreement work together to control the risk in a managed-care environment that includes the home setting.

Strategies for market expansion might also involve links with other financing vehicles, such as home equity conversion, life insurance, or pension annuities to take advantage of offsetting risks while promoting recognition of the need for long-term care protection. Other strategies involve tax preferences for individual savings accounts dedicated to the purchase of LTC insurance or for encouraging employers to offer such protection as a retirement option. Although the current fiscal environment is not encouraging for tax incentives, the need for protection against the catastrophic expenses associated with long-term care may lead people to conclude that these strategies may warrant special consideration.

Possible public-policy roles

One intriguing aspect of LTC insurance that has fueled interest in supporting market development is the potential it holds for relieving some of the pressure on Medicaid. Government payers will benefit if private insurance can reduce the role of Medicaid as a source of payment for middle income elderly by delaying or avoiding the need to spend down their resources. It also may be viewed as an alternative to the current incentive to transfer assets to gain eligibility. The possibility that there could be savings to public budgets as well as benefits to consumers suggests that there is a public role in encouraging the market.

A variety of public-policy interventions to support the emerging market are possible. A relatively inexpensive yet extremely important role is that of consumer education. Further efforts are needed at both the Federal and State levels to inform consumers that Medicare and most private insurance policies do not provide extended-care benefits for chronic illness and disability. This may be especially important with the passage of the new Medicare Catastrophic Coverage Act of 1988 because people may be confused by the idea that they are now covered against catastrophic expenses without understanding that Medicare benefits are not designed to pay for long-term care. As long-term care insurance products become available, consumers will also need information and guidance to make informed choices.

States in particular can play a significant educational role through the office of the commissioner of insurance. They can also encourage insurance regulators to assist in the development and marketing of such benefits by removing regulatory restrictions that inhibit reasonable product experimentation. Significant additional support for market development may be achieved by coordinating the cost- and care-management mechanisms of public long-term care programs with those that the private market views as important to its success.

The significant role that States have in financing long-term care, along with having been delegated much of the responsibility for the structure and administration of long-term care programs, also

provides the incentive for more direct support of the emerging insurance options. Over the last 20 years, States have had a major role in shaping the delivery and financing of long-term care services. Not only do they pay for a large portion of the long-term care costs through the Medicaid program, they are also responsible for many other aspects of care delivery and reimbursement, including determining the need for nursing home beds and community-based provider capacity under the certificate-of-need program, establishing a reimbursement methodology for nursing homes and home health care providers, and monitoring the quality of care by all providers. States also administrate several other Federal and State community-based long-term care programs such as Title III of the Older Americans Act and the Social Services Block Grant Program. Furthermore, State-only funds are increasingly being used as one of the basic sources of financing for home and community long-term care by those States judged most advanced in developing community-based systems (Justice, 1988).

States may want to reevaluate their current role in financing long-term care. The rules governing eligibility for Medicaid through the spend-down process should encourage the use of individuals' resources for their own long-term care. In structuring interventions to deal with problems such as spousal impoverishment, consideration should be given to incentives that encourage private initiative and responsibility. Medicaid cannot afford to act as inheritance insurance for heirs, and a private LTC insurance market cannot fully develop if Medicaid plays this role.

More aggressive strategies may involve direct market subsidies. Although there has been considerable interest in product development, the market is small and underdeveloped. Until there is more experience with insuring long-term care, we can expect progress to be slow and conservative. The limited market size and conservative pricing, in turn, tend to restrict the market to relatively high-income persons. It is in this context that strategies to subsidize the market may make sense. By targeting subsidies to persons otherwise unable to afford the insurance, the market size is increased; and greater numbers of those most likely to spend down to Medicaid are included.

Market subsidies could take several different forms (Meiners, 1988). One approach would be to guarantee full protection from further asset spend down for anyone paying through insurance or out of pocket for a set number of years. Premium subsidies in the form of tax credits or deductions if a person buys a State-certified level of insurance protection is another way to support market development. This type of subsidy could increase the affordability of current products. Both asset waiver and premium subsidy strategies are targeted to the consumer, and they could be varied on the basis of income.

Other subsidy strategies could be in the form of premium tax breaks or public reinsurance programs targeted to help insurers overcome their hesitancy to enter or expand the market. A State reinsurance program might serve as the basis for a data-collection initiative that could help overcome insurers hesitancy to share information on utilization and cost patterns under their programs. The lack of such data has been perceived as one of the barriers to more rapid market expansion.

Assistance to market development might also be accomplished by paying the insurance premium for persons eligible for Medicaid on the basis of low income. This would serve to broaden the risk pool and help spread administrative costs.

There is no one approach to supporting the market that is obviously the best at this stage of market development, but it does seem clear that the States should be key actors in long-term care system reform. Depending on specific market characteristics and its particular objectives, a State might choose to use one or several of these strategies to encourage development of this type of insurance. The uniqueness of a State's Medicaid eligibility criteria, in addition to its regulatory approach to long-term care insurance, will drive State-initiated efforts to conform with the constraints they impose in other areas. In addition, a State's own fiscal outlook and political climate will play a role in determining whether strict budget neutrality will be the measure of feasibility and success or whether the benefits of a more workable method of paying for long-term care will be viewed as worthy of more resources.

Program to promote progress

In August 1987, The Robert Wood Johnson Foundation (RWJF) initiated a grant program for the development and evaluation of public-private partnerships in the creation of long-term care insurance programs. The purpose of the program is to provide those States that have demonstrated a commitment to reforming long-term care financing with the resources to evaluate the potential of private market products and to design demonstration models in which States will work with insurers to expand the role and comprehensiveness of their products. Eight grants have been given (California, Connecticut, Indiana, Massachusetts, New Jersey, New York, Oregon, and Wisconsin), under the RWJF Program To Promote Long-Term Care Insurance For The Elderly.

By locating the grants in the States, the program takes advantage of the only substantial body of experience with all aspects of long-term care, including benefit determinations through nursing home screening programs, eligibility determinations through the Medicaid spend-down process, and initiation of a wide variety of community-based services through the 2176 and other waiver programs. This experience combined with the variation in approaches to long-term care makes the States an ideal laboratory for the development of new financing options. Given the large portion of the States' budgets

that are devoted to long-term care, there is a clear incentive to explore new financing methods while maintaining their well-established commitment to long-term care.

The grant program is structured so as to encourage individual States to select conceptual models that best complement their existing financing and service delivery systems while remaining consistent with the following five overall goals:

- Develop public-private partnerships that avoid requiring the elderly to impoverish themselves before becoming eligible for public benefits.
- Ensure access to quality long-term care services.
- Cover the full range of home-based and community-based services.
- Establish a case-managed benefit structure.
- Design programs that will provide for the participation of all income groups.

Working within these goals, States are considering a number of the strategies outlined above for the development of partnerships with private insurers.

The grant program provides a method for States to benefit from an insurance perspective on the delivery and financing of long-term care and for private insurance companies to benefit from the experience which the States have gained through years of long-term care system experimentation. Through the course of the planning phase and subsequent demonstration phase, a broad array of insurance components will be evaluated and tested. The results from these grants should be of great assistance to the further development of future long-term care insurance programs in other States or on the Federal level.

Conclusion

The need for long-term care is the single most important cause of catastrophic health expenses for the elderly. Although this fact is not new, it is only recently that it is receiving much attention. Perhaps the reason for the previous lack of recognition was that there was no alternative short of a national program, and that has repeatedly been avoided as too costly. It made little sense to alert the public to the significant financial risk associated with the need for long-term care if there was no workable solution. A break in this stalemate has occurred with the recognition of long-term care as an insurable risk. The new private financing initiatives have begun to show how the risk can be shared in a way that encourages individuals with resources to participate in risk pooling and, in the process, help clarify those areas where there will be a need for public involvement on behalf of individuals without adequate resources.

The development of LTC insurance is in its infancy, and there is a need for improved data on virtually all aspects of that development, including information on utilization, costs, risk management, marketing, and the impact of such coverage. At the current time, it seems that supporting this development is a wise first step.

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Home equity conversion and the financing of long-term care

by Maurice D. Weinrobe

Home equity conversion for the elderly is a means for elderly homeowners to draw down a portion of their accumulated wealth without having to sell their homes and/or move. The instruments to convert equity have substantial promise for matching the expenditure needs associated with long-term care services. There have been no formal attempts to pair these potential revenues and expenditures, but the revenue instruments are evolving to a point where such combinations are realistic and reasonable. This article describes why and how such a match might work.

Home equity conversion

Home equity conversion (HEC) for the elderly has been actively practiced in the United States during the 1980's. HEC allows a homeowner to draw funds from a lender based on the home equity. Thus older homeowners with cash-flow difficulties can access the accumulated equity in their homes to meet current expenses. Any "home equity loan plan" is a form of HEC, as is a property tax deferral program, or even a sewer lien. What is special about the HEC programs for the elderly is that they have been set up with a recognition of the demographic characteristics of that group (i.e., their life expectancy) and with the desire to provide to the homeowner a flow of funds that does not require immediate amortization or repayment. Instead, repayment is due either at a scheduled point in time or when a specific event occurs (such as termination of occupancy).

The potential beneficiaries of HEC are the group facing a potential need for long-term care (LTC) services (Jacobs and Weissert, 1987). The elderly as a group have a need for LTC services as well as a desire for insurance to cover the contingency of need for such services. Further, LTC services have two very interesting and related features: they may be delivered in the home of the recipient or, if not home based, the need for services may result in a move from the home to a skilled or custodial facility. The residence plays an important role in either case. Accordingly, it is no surprise that attention recently has been focused on the possibility of combining HEC with LTC services and/or LTC insurance.

The HEC programs that have been established in the United States have enjoyed public and private sponsorship and have taken a variety of forms. For purposes of this article, we deal primarily with four types of HEC instruments: reverse mortgages (RM's), split-term RM's, occupancy-income RM's, and sale agreements. These are described briefly, then the relationship between the plans and the financing of LTC services is explored.

In the early 1980's, general sentiment was that HEC would expand either through sale agreements or loan agreements (Scholen and Chen, 1980). As events transpired, however, formal sale plans were rather unpopular, with fewer than 150 transactions actually consumated.[1] In a sale plan, the homeowner relinquishes title to the property in exchange for a life estate and either a lump sum payment or the promise of a life income flow. One public program involving a transfer of ownership that has gained attention is the Buffalo H.E.L.P. program (Guttentag and Garnet, 1982; Weinrobe, 1985).

The most prominent HEC loan plans are RM's. An RM is a loan secured by a mortgage against a residential property. The loan can be due at a specific point in time and/or at the occurrence of specific events. No repayments are due before the term of the loan. A principal feature of the loan agreement is the disbursement schedule. The RM can incorporate a schedule of disbursements (level or nonlevel), or it can be an open arrangement in which the disbursements are made at the initiative of the borrower. The characteristics of maturity and disbursements distinguish several categories of RM's.

An RM with scheduled disbursements for a fixed period and an identical term for repayment is a term RM. (For example, disbursements might be scheduled for 12 years, at the end of which the loan is due for repayment.) The best known program offering term RM's is the California-based Reverse Annuity Mortgage Program. Under its aegis, over 400 term RM's have been originated.

An RM with scheduled disbursements for a fixed term (for example, 12 years), but with a different term for repayment (including a guaranteed term of as long as the homeowner is able to and chooses to remain in the residence) is a split-term RM. The best known split-term RM instrument is that offered by the Connecticut Housing Finance Agency (CHFA) through its Pilot Reverse Mortgage Program. An important distinction of this program is that it permits repayment to be deferred until the death of the resident or until the house is sold, while interest

Reprint requests: Maurice D. Weinrobe, Clark University, 950 Main Street, Worcester, Massachusetts 01610-1477.

[1]The nature of a HEC sale arrangement does allow such a transaction to be negotiated between two parties without the benefit of a formal plan or program. It is much easier for two parties to enter into a transfer of equity than to enter into a loan arrangement. There is good reason to believe that many sale arrangements with a guarantee of life tenancy to the elderly seller have been negotiated.

continues to accrue. Approximately 225 loans have been written since the program began in 1985.

An occupancy income RM is an instrument that guarantees income for as long as the borrower can and does remain in the home. The Century Plan of American Homestead Mortgage Corporation is a loan of this type (Leban, 1984). It has been offered in selected northeastern States since 1984. The Century Plan instrument is unusual in that the loan balance is determined in part by property appreciation. Although there have been some shared-appreciation purchase money mortgages written against residential properties, this is the only extant shared-appreciation reverse mortgage. Approximately 1,200 of these loans have been originated.

It should be noted that as part of the Housing and Community Development Act of 1987, a pilot program for FHA (Federal Housing Administration) insurance of RM's was created (the Home Equity Conversion Mortgage Insurance Demonstration). RM's insured under the pilot program will be required to guarantee occupany until death or until the resident moves out. This program is currently under development at the Department of Housing and Urban Development (HUD). Lenders making loans under this program are insured against borrower default. The demonstration is to be limited to 2,500 insured loans, but it has the potential to change dramatically the types of RM's available in the marketplace, as well as the public's reaction to the concept.

Equity conversion and health services

The concept of combining HEC with the financing of LTC services is attractive because of two basic principles. The most conspicuous risk associated with HEC is that a homeowner will remain a resident in her/his home for a lengthy period of time, resulting in a long stream of disbursements and, consequently, a larger ultimate loan balance. The most conspicuous risk associated with LTC insurance is that an individual will leave the home for an institution and will remain there for a long period of time. Thus, combining HEC with a purchase of LTC insurance allows one to use one risk to offset the other. This is called the principle of offsetting risks.

The second principle relates to the provision of services. Institutional care generally is considered to be more expensive than home care. Because HEC allows and encourages people to remain in their homes when financial circumstances might otherwise force them to move (including a move to obtain more expensive medical care, reimbursable by the State), it also allows them to obtain custodial or support services at a lower social cost. This is the principle of coordinated risk. (If, however, HEC-generated funds were used to purchase goods and services unrelated to LTC, the principles of offsetting and coordinated risks would be irrelevant.)

These principles are useful in the consideration of different types of HEC and LTC plans.

Indirect linkages

HEC-generated funds can be directly linked or tied to the purchase of specific services, or their usage can be discretionary. To date, most uses of HEC funds for LTC services have been discretionary, and the linkages between income and expenditure indirect.

The indirect purchase of LTC services can be accomplished by either the prepayment of services (including insurance premiums) or the purchase of services on an "as-needed" basis. Oddly enough, although the most common use of HEC for LTC to date is on an as-needed basis, the types of HEC instruments used are often poorly suited to the particular needs. For example, the income from a term RM may be used to purchase medical services. This is inefficient, because the term RM produces an income flow, whether or not there is an ongoing expenditure requirement. However, a term RM would be well suited to a situation involving a hospice patient, where expenses are incurred regularly, and the anticipated timeframe for these expenditures is limited.

For situations in which the indirect combination of HEC with LTC is appropriate, two specific changes can improve this arrangement. One is the availability of either a split term or an occupancy guarantee. These options permit the purchase of services for as long as the homeowner resides at home. (The pending Federal insurance of RM's will be important in this regard.) The second improvement is the discretionary withdrawals of funds, as with a line of credit. This would allow a true matching of expenses with receipt of funds.

Direct linkages

It is in the area of direct linkages of HEC and LTC that the most interesting and innovative possibilities lie for combining the two concepts. It is also in this realm that opportunities exist for substantial cost savings through administrative cost reductions and more efficient resource allocation.

The simplest example of a direct linkage is allowing disbursement of funds only for the use of LTC-related expenses. This arrangement can take the form of a designated line of credit requiring a signoff by a medical official. The only difference between this and the indirect linkage is that the homeowner may not use instrument proceeds for nonmedical purposes.[2]

A slightly more unusual HEC/LTC combination would have the HEC instrument set up for the direct purchase of LTC insurance. One could easily envision such a combined instrument offered by an insurance

[2]The CHFA Pilot Reverse Mortgage Program has recently begun allowing its RM's to be used to finance the acquisition of LTC services in a linked form. If there is a certified LTC need, the ordinary eligibility limits of the program and the parameters of the instrument are modified.

carrier. The insurance company would simply keep an account of the debt incurred through the purchase of insurance, and the obligation would be due when the home is sold or the resident moves out. Ideally, premiums would be level for life, or could be decreased but not increased. This would permit an accurate forecast of the potential magnitude of the debt over time.[3]

More intriguing combinations of HEC and LTC could bring service providers into the arrangement. Two interesting possibilities are life care community fees and life care at home.

Life care communities typically have initiation fees plus monthly fees. These elements correspond to disbursements from RM's with guaranteed occupany—up front and monthly disbursements. However, the question arises as to how one can have a reverse mortgage when one has already moved out of the home. The answer lies in the nature of homeownership. If an individual owns a condominium unit in a life care community, that person has home equity. An RM written against that unit could generate a flow of income to pay monthly fees or some portion thereof. Such an arrangement might enable the resident/owner to retain equity that could be passed on to heirs, while at the same time assuring the availability of LTC services. This estate effect results because the loan balance rises gradually over time. From the perspective of the manager or owner of the community, it establishes a guaranteed source of funds, either from the community itself or from a lender working in cooperation with it.

It is a small analytical step from using HEC for a condominium in a life care community to using HEC to purchase the same bundle of services without the actual residency. This arrangement is referred to as "life care at home" (Tell, Cohen, and Wallack, 1987). Here again, it is straightforward to have an RM produce the income necessary to finance membership. In an uncomplicated version of such an arrangement, the sponsoring organization writes the loan or works with a specific lender to write a pool of loans.

Lastly, there is no reason to limit the linkage between HEC and LTC services to RM's or to the exclusive purchase of LTC services. Sale-based instruments have been used to finance the purchase of nonmedical services, as in the H.E.L.P. program, where there is an implicit purchase of property management services (Guttentag and Garnett, 1982). The linkage to LTC services simply makes good sense, whether or not other services (home maintenance, social services, memberships, etc.) are part of a package.

Public policy

It is currently the Federal policy to permit recapture of some or all home equity of elderly Medicaid recipients.[4] As currently practiced, this recapture varies widely in terms of State effort, and where utilized it is neither effective nor efficient. The principal effect of the policy is to encourage homeowners and their agents to develop innovative means to evade the effort to force home equity conversion.

At the same time, elderly homeowners with substantial net worth in the form of home equity often have little access to quality medical care, even when they are willing to reduce that net worth. If governmental units will assist the elderly in their efforts to remain in their homes or to purchase insurance to protect against the possibility of institutionalization, they will enhance private opportunity while reducing the public's share of the medical bill.

Public policy can encourage opportunities for HEC (e.g., by assisting in the development of counseling programs) and the linkage of HEC with LTC services. It is in this latter direction that the most interesting and exciting possibilities lie.

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[3]Of course, the purchase of LTC insurance could begin earlier in life, thus potentially reducing the premium payments in later years. For many, it would be optimal to switch from using current income to HEC financing in the later retirement years.

[4]This is done either through Medicaid eligibility rules or estate recovery. Rules differ from State to State. See, for example, Scholen et al., pp. 65-66.

Long-term care financing through Federal tax incentives

by Donald W. Moran and Janet M. Weingart

Congress and the Administration are currently exploring various methods of promoting access to long-term care. In this article, an inventory of recent legislative proposals for using the Federal tax code to expand access to long-term care services is provided. Proposals are arrayed along a functional typology that includes tax mechanisms to encourage accumulation of funds, promote purchase of long-term care insurance, or induce the diversion of funds accumulated for another purpose (such as individual retirement accounts). The proposals are evaluated against the public policy objective of encouraging risk pooling to minimize social cost.

Introduction

As the Federal Government considers ways to promote access to long-term care services, attention has turned to the various means by which additional financial resources can be brought to bear on the problem. The most common means of promoting public goals at the Federal level is direct: The Government elects to spend public funds, which are raised through either general taxation or dedicated tax sources, to purchase goods and services on behalf of intended beneficiaries. In addition to the option of direct expenditures of public funds for a particular purpose, however, the Federal Government has two other basic options for influencing the distribution of resources in the economy.

First, the Government has considerable power to intervene in the conduct of private affairs by regulating otherwise voluntary transactions. For example, Congress is devoting considerable attention to legislation that would require private employers to offer employee health insurance that meets particular standards. Although funds would not flow through public coffers as a result of this initiative, substantial private resources would be directed toward an explicitly public purpose.

Second, the Federal Government can have a powerful influence on the flow of resources to public priorities by manipulating the Federal tax system to affect private behavior. The tax code can be used in a wide range of ways to induce preferred outcomes.

In some cases, taxation can be akin to explicit regulation. For example, levying a tax equal to 100 percent of the value of a good or service is functionally equivalent to a regulatory restriction on the production or sale of that good or service. In other cases, tax code provisions can be structured so as to be functionally identical to direct public expenditures. So-called "refundable tax credits," by which a beneficiary receives the full value of a credit even if it exceeds what would otherwise be the beneficiary's full tax liability, are effectively equal to direct public assistance payments. In between these extremes, the tax code can be used to encourage but not compel desired outcomes. By raising or lowering the amount or rate of taxation applied in particular circumstances, policymakers can effectively raise or lower the prices faced by consumers, which should, in turn, influence the level of goods or services consumed by the public.

Reprint requests: Janet M. Weingart, Lewin/ICF, 1090 Vermont Avenue, NW., Suite 700, Washington, D.C. 20005.

Tax incentives to increase consumption

It is not surprising that policymakers concerned with expanding access to long-term care services have considered a variety of means to harness the Internal Revenue Code to that purpose.[1] The purpose of this article is to summarize recent legislative proposals to use the Federal tax code for expanding access to long-term care (LTC) services and to assess how the various options might fit into a broader scheme of policies designed to improve such access.

One way to view proposed tax preferences is to consider the varying mechanisms by which the proponents of particular proposals expect to use the tax code to influence the flow of funds toward LTC.

A significant number of proposals are designed to use the tax code to promote the accumulation by private individuals of funds that will be devoted to the purchase of LTC goods and services. The usual mechanism is to enact special funding rules, akin to those for individual retirement accounts (IRA's), to encourage saving for preferred purposes.

Other proposals are designed to provide tax preferences at the point of expenditure of funds. Here, we find two basic sorts. The first represents straightforward use of tax preferences to lower the price of LTC products, notably private LTC insurance, offered to consumers. The second sort is, in a sense, a hybrid of the accumulation and expenditure tax preferences: proposals that provide favorable tax treatment to induce the diversion of funds previously accumulated for another purpose (e.g., a pension) to pay for LTC goods and services.

In the sections that follow, we survey each of these areas in turn. In general, we examine legislation that typifies different approaches and that was introduced from February 1987 through February 1988.

[1]Many of the ideas presented in this article reflect lessons learned during the conduct of recent work the authors have performed under contract to the American Health Care Association. However, we hereby absolve that organization of any responsibility for our views, even as we acknowledge the contribution their support has made to our thinking in this area.

Accumulation of funds

This type of tax incentive is designed to encourage the accumulation of funds for use in LTC coverage. Under this method, individuals would place funds in special tax-favored accounts (such as IRA's) earmarked for LTC needs. Contributions made to such accounts would be deducted from gross income. The interest in these accounts would accumulate tax free during the individual's lifetime and could be used to purchase LTC insurance or to pay LTC expenses directly. A version of this approach would be to alter current IRA requirements so that individuals could continue contributing to IRA's beyond age 70 1/2 years. In this article, we do not explicitly review the broader family of health care IRA's; instead, we focus on approaches in which funds are to be used to finance long-term care needs only.

Two proposals for accumulation incentives were introduced in 1987. In February, Representatives Ralph Regula and Dean Gallo proposed the Health Services Act of 1987, House bill (H.R.) 1182, which would allow individuals a deduction from gross income for contributions to a health services savings account. Under this proposal, contributions to a health services savings account could not exceed $2,000. The funds in these accounts would be earmarked for any of the following types of LTC expenses.

- Skilled nursing facility (SNF), intermediate care facility (ICF), or other long-term care facility.
- Home health care.
- Medicare supplemental policies.
- Purchase of long-term care insurance.

Funds withdrawn to cover these expenses would be taxed in two different ways. For funds used to pay SNF, ICF, or other long-term care facility expenses, 80 percent of the amount distributed would be included as taxable income. If funds were used to purchase long-term care insurance or supplemental Medicare insurance, only 50 percent of the amount distributed would be counted as taxable income. Thus, the proposal would encourage investment in insurance rather than direct spending for long-term care services.

A similar proposal, the Long-Term Care Savings Account Act of 1987, Senate bill (S.) 774, was introduced by Senator Barbara Mikulski on March 18, 1987. Under this proposal, up to $2,000 in contributions to an LTC savings account could be deducted from gross income. Only the beneficiary and his or her spouse and parents would be allowed to contribute to such an account. The bill would also permit a tax exclusion for income accumulated in such savings accounts, as long as such amounts were used to cover LTC expenses.

Tax deductions for insurance premiums

The second type of tax incentive encourages spending of funds for LTC. It provides tax deductions for purchase of LTC insurance and services rather than deductions for accumulation of funds for such purposes.

In the past, medical expenses, including those for long-term care, were subsidized through deductions from adjusted gross income (AGI). Over time, Congress has tightened the eligibility requirements for medical deductions, making it more difficult to obtain tax benefits for medical expenses. There is some interest in reintroducing tax deductions for medical care, specifically for LTC. The concept of tax credits for purchase of LTC insurance has been considered in several States.

A recent Federal proposal of this type, the Long-Term Health Care Amendments of 1988 (H.R. 3900), was introduced by Representatives Hal Daub and Brian Donnelly on February 3, 1988. This proposal contains tax incentives for both individuals and employers. Key features for individuals include the following.

- Deductions from gross income would be allowed for payment of qualified long-term care insurance premiums. These tax deductions would apply only to individuals 51 years of age or over.
- The premiums purchased with these monies would be only for the taxpayer, a spouse, and any dependent of the taxpayer.
- The maximum amount allowable for a deduction would be $1,500. The deduction also could not exceed unearned income for the taxpayer for the taxable year.

For employers, H.R. 3900 would offer incentives to provide LTC benefits for current and retired employees through pension, profit-sharing, and stock bonus plans. The bill would permit the use of these plans to pay for LTC benefits without penalties for offering such services.

A second proposal, H.R. 3501, introduced by Representative Matthew Rinaldo on October 15, 1987, contains incentives for individuals and employers. Key features for individuals include the following.

- LTC insurance premiums would be tax deductible, as is currently the case with health insurance premiums.
- Any insurance benefits would be treated the same as expenses incurred for medical care, so they would not be taxable.

Employers could offer LTC insurance as an option in cafeteria-style benefit plans and could treat their contributions to such insurance as they would treat contributions to accident and health insurance. A certification process for insurance policies would also be required. Policies would need to be approved by the Secretary of the Department of Health and Human Services; National Association of Insurance Commissioners standards would be applied in judging insurance policies.

A third bill, H.R. 2039, introduced by Representative Michael Bilirakis on April 9, 1987, would allow individuals a tax deduction for expenses

exceeding 5 percent of AGI incurred in care of certain elderly individuals.

Tax-free withdrawal of funds

This approach represents another way to use tax incentives to encourage distribution of funds. Under this method, an individual with funds already in an IRA or other tax-preferred savings system would be permitted to withdraw these funds to pay for LTC insurance or LTC expenses. The funds would not be taxed on withdrawal. A variation on the IRA approach would be to use accumulations in life insurance contracts to pay for LTC expenses or insurance. Under this method, life insurance policies could be withdrawn tax free if used to purchase LTC insurance.

Another variation would be to direct accumulated pension funds toward LTC expenses or purchase of LTC insurance. A proposal discussed by the Task Force on Long-Term Health Care Policies would allow workers tax-free transfer of some of their vested pension funds for the purchase of LTC insurance (Office of the Secretary of the Department of Health and Human Services, 1987). Other proposals include permitting employers to use assets from overfunded pension plans (those with fund balances in excess of minimum Employee Retirement Security Act of 1972 requirements) to prefund retiree health benefits, including benefits for long-term care (Maxwell, 1987).

Five pieces of proposed legislation would promote tax-free withdrawal of accumulated funds or conversion of funds for LTC insurance. These proposals are summarized as follows:

H.R. 3900—Sponsored by Representatives Hal Daub and Brian Donnelly, this proposal would allow tax-free withdrawal of monies by individuals 51 years of age or over from an IRA account as long as those monies were applied toward purchase of LTC insurance. In addition, it would permit tax-free conversion (i.e., cashing in) of life insurance policies as long as the resulting funds were applied toward purchase of LTC insurance for self or spouse.

H.R. 3501—Introduced by Representative Matthew Rinaldo, this proposal would allow individuals to use IRA assets tax free to purchase LTC insurance for self, spouse, or parents. Consumers could use life insurance on a tax-free basis to purchase qualified LTC insurance.

S. 1832—Introduced by Senator David Durenburger, this legislation would allow individuals to exclude from gross income amounts withdrawn from IRA's for LTC insurance premiums. Persons would have to be 59 1/2 years of age on or before the date of distribution. Amounts excluded from AGI could not exceed $2,000 ($1,000 if separate returns were filed by married individuals).

H.R. 2039—Sponsored by Representative Michael Bilirakis, this proposal would permit the use of tax-free withdrawals from IRA's to pay for certain LTC expenses or purchase LTC insurance.

H.R. 1933—This proposal, introduced by Representative J. Roy Rowland on April 6, 1987, would allow tax-free distributions from IRA's for purchase of LTC insurance coverage by individuals who have reached 59 1/2 years of age.

Table 1 contains a summary of proposals that offer tax incentives for LTC. As shown, the majority of proposals focus on tax-free withdrawals of IRA funds. In contrast, the relative scarcity of proposals that encourage redirection of existing funds toward LTC expenses or purchase of LTC insurance is also shown.

Analysis

As shown in the legislative review in the previous section, the emphasis in Congress is on purchase of insurance rather than purchase of products and services. In this section, we discuss the public policy rationale for promoting insurance purchase rather than direct consumption and examine each proposal accordingly.

The primary advantage of insurance over direct product purchase is that insurance enables a population to pool risk. If the entire population could be merged into a single risk pool, the social cost of providing long-term care coverage to any individual would be minimized. Policies that promote this objective, therefore, would maximize access to long-

Table 1

Comparison of congressional proposals for Federal tax incentives for long-term care: United States, 1987-88

Legislation	Sponsor(s)	Year introduced	Type of tax incentive			
			Contribution to IRA's	Deduction for LTC expenditures	Tax-free withdrawal of IRA's	Conversion of funds
H.R. 3900	Daub and Donnelly	1988		X	X	X
H.R. 3501	Rinaldo	1987		X	X	X
H.R. 2039	Bilirakis	1987		X	X	
H.R. 1933	Rowland	1987			X	
H.R. 1182	Regula and Gallo	1987	X			
S. 1832	Durenburger	1987			X	
S. 774	Mikulski	1987	X			

NOTE: IRA is individual retirement account. LTC is long-term care. H.R. is House bill. S. is Senate bill.

SOURCE: Data from a Lewin/ICF analysis.

term care services, particularly for high-risk populations.

The assumption of cost minimization through risk pooling, of course, flows from the assumption of universal pooling of risk. Absent universal pooling, there is a risk that individual elections regarding insurance coverage would bias the distribution of risks within the pool, effectively raising or lowering the cost of insurance relative to the level that would prevail if all risks were pooled. This potential problem, as we will note, has important implications for the assessment of the efficacy of tax incentives for insurance purchase.

Accumulation of funds

Under the accumulation approach, individuals are encouraged to set aside funds for LTC expenses. If the policy objective is to promote greater access to LTC services, this approach has several disadvantages. This approach would not promote risk pooling. It is unlikely that simply increasing the resources available to some individuals to purchase LTC services would result in lower costs for any American. Moreover, encouraging reliance on individual savings accounts to finance unpredictable consumption expenditures can be risky; the amount that one would need to save to cover LTC expenses could be enormous. To the extent that the existence of such accounts might dissuade individuals from buying insurance, significant social costs could be incurred.

The problems that have been identified with IRA's, moreover, could be expected to occur in the accumulation approach. These problems include the possibility that tax incentives may not be attractive enough to encourage adequate participation by workers. Only 16 percent of eligible individuals participated in the IRA program in 1985 (Maxwell, 1987).

It is also likely that this tax incentive would be used mostly by middle and upper income earners, who would be able to part with the funds necessary to contribute to an IRA. Individuals in other income classes would not be as likely to benefit from this type of program.

Finally, this program might lead to an unexpectedly large loss of revenue for the Federal Government. Because policymakers felt that the limited participation in the IRA program led to an excessive revenue loss, Congress, in the Tax Reform Act of 1986, eliminated the initial IRA tax deduction for upper income taxpayers who are covered by an employer retirement plan (Robbins and Robbins, 1987). This recent experience may make Congress less willing to embrace a similar concept for LTC.

Tax deductions for insurance premiums

Legislation providing tax deductions for purchase of LTC insurance, in contrast, encourages at least some risk pooling; individuals are offered incentives to purchase insurance rather than save in individual accounts.

Administratively, proposals to provide deductions or a tax credit for purchase of LTC insurance suffer from the problem that an income tax return must be filed in order to take advantage of such a tax credit. Because of recent changes in tax laws, people 65 years of age or over may no longer be required to file an income tax return (Maxwell, 1987). Thus, many potential purchasers of LTC insurance may not be able to take advantage of this incentive.

Tax-free withdrawal of funds

The five proposals that would allow tax-free withdrawals from IRA's or conversion of existing funds to purchase LTC insurance are similar to each other. Although these proposals promote risk pooling, they focus narrowly on the application of funds from two sources: IRA's and life insurance. Little attention has been devoted to the possibility of using other sources of funds, such as pension plans. Moreover, as noted later, none of these proposals takes into account the potential problem of biased risk selection induced by tax subsidies for insurance purchase. Such biases could, at least in theory, raise rather than lower the cost of long-term care insurance under certain adverse assumptions.

Problems with risk pooling

A number of problems are inherent in attempting to use elective tax subsidies for private health insurance as a means to promote broad risk pooling in the LTC area. Cost and underwriting restrictions make LTC insurance policies inaccessible to many older persons. Many policies have significant restrictions, such as substantial deductibles, that limit their effectiveness. Policies that require a prior hospitalization before covering a nursing home stay can effectively deny coverage to patients whose LTC needs do not begin in the hospital (Maxwell, 1987). In addition, certain policies cover only skilled nursing care. Often, purchasers are unaware of the implications of these restrictions until their claims are denied.

A more fundamental problem is that imperfect risk pooling can lead to selection bias. Because individuals can be included or excluded from an insurance pool based on their unique characteristics and because individuals are allowed to voluntarily elect coverage, biases might exist in insurance selection that would result in insurance being unnecessarily costly. Under adverse selection for the insurer, those voluntarily electing coverage have a higher risk profile than those electing not to purchase coverage. If premiums are based on the experience of the general population, insurers will face underwriting losses when only those expecting higher volumes of claims sign up. Thus, selection biases can have an important impact on the potential cost, and hence the legislative feasibility, of all long-term care insurance programs.

Tax incentives in context

Much of the debate surrounding the current proposals described earlier has been stated from the perspective of finding a means of finance for a given level of cost. In the present environment of budgetary stringency, attention has naturally turned to financing mechanisms outside traditional social welfare benefit programs. Because tax incentive proposals have traditionally garnered broad bipartisan support, it is likely that Congress will seriously consider enactment of some tax-based approach to long-term care financing in the near future. At minimum, tax-subsidized approaches will be offered as complements, or even substitutes, for broader public efforts designed to promote access to long-term care services.

To date, however, we have encountered little serious discussion in the public policy literature regarding the behavioral effects of tax incentives in the long-term care financing arena. Given the well-understood and powerful effects of tax subsidies in elevating demand for acute care health insurance products, it seems likely that significant tax benefits could have significant behavioral consequences. This seems especially true given that most proposals launched to date appear designed to promote individual rather than group insurance purchases. In such an environment, the potential for biased risk selection in the insurance market is substantial.

This omission, we suspect, derives from the relative novelty of private insurance issues in the long-term care policy debate. Prior to the 1980's, virtually all policy discussions regarding LTC were centered on the need for and desirability of public sector benefit programs. Although those discussions illuminated a number of important issues, they brought little light to bear on the question of what role might be played by private financial institutions in meeting particular needs. Hence, with the notable exception of H.R. 3501, none of the proposals discussed here even implicitly addresses the sort of insurance products that might be available for purchase and how the structure of incentives offered might influence, for good or ill, consumer behavior in the market for those products. Given the nascent state of private insurance markets in this area, this silence is potentially troublesome.

Viewed in this light, it is difficult to evaluate the appropriate role of tax subsidies in LTC financing without reference to the broader policy context in which such subsidies would operate. By way of illustration, considerable attention has been addressed to public-private partnership models for universal long-term care financing. Under this approach, public programs would be established to ensure protection once a threshold of expenditures or days of care were reached, back-end protection. Such coverage would apply in high-cost cases under an approach analogous to the "catastrophic" limits recently enacted under Medicare for acute care services. Under this broad formulation, individuals would be expected to arrange their own financing, through insurance purchase or self-insurance, to cover the front-end risk of costs below the Government threshold. In this policy scenario, private insurance would have a heavy role to play, and broad risk pooling would be required to minimize social costs. Few of the proposals discussed earlier appear likely to promote broad access to insurance coverage or promote substantial pooling in such an environment. The exception, H.R. 3501, is itself a variation on the partnership approach, with the Government-sponsored reinsurance program created by Title II of the bill serving as the Government back-end financing mechanism.

Conclusion

Given the significant potential for powerful behavioral effects induced by tax subsidies in the long-term care financing area, it seems unwise to evaluate tax subsidy proposals without reference to the broader policy context. Depending on how the relative roles of public financing mechanisms, private insurance, and individual self-insurance are specified, tax incentive schemes could either promote narrowly defined public purposes or promote unexpected distortions in private insurance markets. If a large role is continued for self-financing, expedients such as dedicated IRA's could provide some assistance to middle-income families in establishing and maintaining coverage. If, in contrast, a significant role is expected for private insurance mechanisms in pooling risk, most proposals to use tax subsidies would fail to achieve this objective and might inadvertently frustrate the achievement of that policy goal through other means.

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State tax incentives for persons giving informal care to the elderly

by Michael C. Hendrickson

Programs for informal caregivers of frail elderly can be adopted by States to address some of the problems associated with an expanding and costly long-term care system. In this article, highlights are given from a 3-year study of Idaho and Arizona tax incentive programs. Characteristics of informal caregivers and elderly participants are described, and elderly participants are compared with elderly nonparticipants and with the general elderly population. Tax incentives were positively related to the level of service and financial support provided by informal caregivers. Data were inadequate to determine whether the induced informal help substituted for public expenditures.

Introduction

During the last decade, there has been a sharp and dramatic increase in the Nation's elderly population, especially in the oldest and most impaired segment. Associated with this aging of America has come mounting pressure on publicly subsidized long-term care and support service programs.

Medicaid, a State-operated program jointly funded by the States and the Federal Government, is the principal source of public funding for long-term care. Because the Federal Government contributes to Medicaid programs through a matching percentage rate program, both State and Federal officials are concerned with rapidly increasing spending requirements. Consequently, both levels of government seek less costly alternatives as well as incentives by which a larger portion of these costs might be supported by private sources.

Several States are currently interested in addressing long-term care problems with legislation that will promote the purchase of private long-term care insurance. Tax incentives may be such a mechanism. However, it is clear that those who are frail now or likely to become frail in the near future may not benefit from such a program, given the long-term planning such programs would require. Also, long-term care insurance will not by itself stimulate an increase in the supply of informal caregiver support services to keep pace with rising demand.

The vast majority of community-based frail elderly, nearly 75 percent, rely solely on family and friends for informal care; most of the remainder depend on a combination of family care and paid help (Soldo, 1983; Liu, Manton, and Liu, 1986). Therefore, one approach that has been attractive to States is tax incentive programs that might support the informal caregiver system. Consequently, the tax incentive programs described here need to be understood as investments that a State makes in order to support the informal caregiver system, expecting to reduce either current or anticipated demands on the publicly subsidized long-term care system.

Reprint requests: Michael C. Hendrickson, Center for Health and Social Services Research, 27016 Fond Du Lac, Rancho Palos Verdes, California 90274.

Idaho and Arizona were among the first States to create tax incentive programs. Although each State chose different eligibility criteria, the focus in both States was on the frail elderly. Iowa, Oregon, and North Carolina have adopted similar tax vehicles, and the Federal dependent care tax credit is applicable to all States. These programs, however, were not fully implemented at the time of this study.

Methods

Findings discussed throughout this article are based on a 3-year study conducted by the Center for Health and Social Services Research and its subcontractor, the Hebrew Rehabilitation Center for the Aged. An exhaustive description of the study methodology and limitations can be found in the final report (Hendrickson et al., 1988).[1] The study methods are summarized here.

Primary data sources

Information about the configuration of the tax incentive programs was gathered using structured in-person interviews with State officials, including legislative and Governor's office staff and key agency personnel from health, social services, aging, finance, and tax revenue departments. Hearing transcripts, reports, and various manuals were reviewed as well. In addition, discharge planners, social workers, and tax preparers were surveyed by mail to determine their level of knowledge about the respective programs and to help determine the level of information diffusion in a State.

Telephone interviews were conducted with a sample of elderly persons claimed on tax returns, their caregivers, and a control group of elderly-caregiver pairs not participating in the tax incentive program. Two waves of person-level data collection were conducted at 1-year intervals. During 1983, data were gathered simultaneously for 1981, the baseline year prior to the tax program implementation, and for 1982, the first program year; 1 year later, data were gathered for 1983. Final sample sizes were 398 pairs

[1]This report is available through the National Technical Information Service. Its accession number is PB88-236724.

of users and 203 pairs of nonusers in Idaho and 78 pairs of users and 358 pairs of nonusers in Arizona.

Secondary data sources

Other data sources used included a study of elderly in Massachusetts and the 1982 National Long-Term Care Survey, or LTCS (Hanley, 1984). In addition, over the 3-year study period, the 50 States were monitored through contacts with the Intergovernmental Health Policy Project and the Council of State Planning Agencies, as well as through direct contact with selected States to identify proposed State tax incentive legislation.

Data analysis

Extensive descriptive analyses of the tax systems, level of program dissemination, and claimant and dependent characteristics were conducted. In addition, because the quasi-experimental study design included both experimental and control groups, it was possible to control for baseline differences between the users and nonusers using regression techniques. To this end, hierarchical regression analyses were conducted using formal and informal services received as the dependent variable while controlling for demographic characteristics, other background variables, and baseline services.

Structure of tax incentive programs

In Idaho, the program allows either a deduction or a credit for in-home care of persons 65 years of age or over. A $1,000 deduction from taxable income can be claimed for each elderly person for whom care is provided. A refundable tax credit of $100 is available for taxpayers with insufficient income to take advantage of the tax deduction. Informal caregivers may claim a maximum of three persons per tax year. These incentives are available irrespective of the nature of the expenditures made and can be combined with a dependent deduction and/or a personal care deduction. The care must be provided in the home of the taxpayer, but the elderly person does not need to meet any disability requirements or income qualifications.

According to the Idaho State Tax Commission, which analyzes Idaho tax returns, the program costs little in administrative overhead or revenue loss. When the program was initiated in 1982, the State had no projections on rates of participation or on the expected amount of revenue loss. The State's experience for the 1982, 1983, and 1984 tax years is described in Table 1. No audits of tax returns have been provoked and no additional staff have been added as a result of this program.

In Arizona, the tax incentive program was an amendment to a nursing home deregulation bill. In the 1981 session, Arizona legislators were concerned with reducing nursing home costs, including regulatory costs, and stimulating the private sector to both provide and finance long-term care. Currently, long-term care in Arizona is coordinated and financed at the county level, with the State assuming principally a regulatory function. The Arizona Health Care Cost Containment System, a project designed to test the effectiveness of establishing a Medicaid program based on competitive principles, was still an experimental program at the onset of the tax study.

Table 1

Idaho tax incentive program statistics: 1982-84

Year	Number of claims filed	Refundable credits	Deductions	Revenue loss	Cost per claim
1982	701	$60,000	$5,018	$65,018	$92.75
1983	692	61,000	3,500	64,500	93.21
1984	769	69,000	4,000	73,000	94.93

NOTE: All dollar amounts reported are estimates.

SOURCE: Department of Revenue and Taxation, Idaho State Tax Commission, Boise, Idaho.

The tax incentive measure allows a $1,000 personal exemption for every taxpayer who paid 25 percent or more of the total yearly costs of an elderly person's nursing care in an institution, supervisory care facility, or foster care home; 25 percent or more of home health costs; or at least $800 toward other medical costs. The program also allows for a deduction of payments of any amount made on behalf of an elderly person, whether or not the person is a blood relative. Subsequent amendments have changed the benefit from a personal to a dependent exemption and lowered the exemption to $600, the level for all other dependents.

The State Department of Revenue originally estimated that more than 8,813 persons would be eligible for the tax incentive program and that total revenue loss might exceed $500,000 per year. Because the item(s) related to the tax incentive program are not computer coded on the Arizona tax return, it was impossible to determine the actual number of claimants or the amount of revenue loss. However, in the tax incentive study, an attempt was made to identify Arizona tax incentive claimants from a randomly drawn list of 10,000 Medicare recipients, and only 78 elderly were identified as participating in the program.

Recipients of care

In Idaho, an overwhelming percentage of the elderly persons claimed were female (78 percent), widowed (88 percent), and poor (82 percent with incomes of less than $5,000 per year). However, although many would presumably be eligible for both Medicaid and the Supplemental Security Income (SSI) program, only a small proportion (14 percent) were on Medicaid and even fewer (not even 5 percent) claimed SSI benefits. Most of the elderly (93 percent) were receiving social security payments. A large proportion of the elderly persons claimed were among

the old-old: 34 percent were 85 years of age or over, compared with 9 percent of all elderly in the Idaho population. This is a much larger percentage of the old-old than the 20 percent reported in the 1982 LTCS. The majority (58 percent) of those 85 years or over were cared for by the young-old, claimants who were themselves 60 years of age or over.

Although no screening for frailty takes place in the Idaho tax incentive program, a large majority of elderly participants (83 percent) had one or more chronic illness that limited their activities. Indeed, 94 percent had one or more functional limitation, and almost 76 percent were vulnerable (i.e., deemed unable to survive at an acceptable level in the community without services, formal or informal).

In Arizona, an overwhelming proportion of the elderly participants (95 percent) were 75 years of age or over, with 64 percent being age 85 or over. The average age of the Arizona participants was 86 years, compared with 81 years in Idaho. A larger percentage of the Arizona sample were still married (14 percent, compared with 4 percent in Idaho), and a smaller proportion were widowed (81 percent, compared with 88 percent in Idaho). The sex distributions in the two States were essentially the same: 80 percent female in Arizona, 78 percent in Idaho. Arizona elderly participants were better off financially than Idaho elderly; nonetheless, 66 percent had incomes of less than $5,000. SSI benefits were claimed by 10 percent of Arizona participants, compared with only 5 percent of Idaho participants.

The participants in both Arizona and Idaho programs were considerably more impaired in activities of daily living (ADL) and instrumental activities of daily living (IADL) than the national population of elderly persons, as reported in the 1982 LTCS. Three ADL measures were compared. About 1 percent of the national sample had problems with eating, compared with 25 percent in Arizona and 22 percent in Idaho. Significant differences between the national sample and the two study States also were found with respect to dressing. A more severe problem of incontinence existed among Idaho and Arizona study elderly than among the LTCS population. Grocery shopping and handling money were the tasks most likely to cause problems for all three groups; however, the problem was more severe among Idaho and Arizona study elderly than among the national population. Problems with meal preparation were significantly greater for recipients of the two tax incentive programs than for the national population. Table 2 contains a summary of ADL and IADL comparisons.

Table 2

Percent of elderly persons with selected impairments: United States, 1982; Idaho, 1981-83; Arizona, 1981-83

Impairment	United States	Idaho	Arizona
ADL[1] impairment		Percent	
Dressing	3.9	15.5	26.6
Eating	1.4	22.4	25.0
Continence	5.9	26.3	32.8
IADL[2] impairment			
Preparing meals	7.0	54.9	82.8
Taking medicine	4.1	32.3	60.9
Grocery shopping[3]	13.5	—	—
Managing money[3]	6.2	—	—
Grocery shopping and managing money	—	75.4	95.3
Light housework[3]	6.1	—	—
Doing laundry[3]	9.7	—	—
Light housework and laundry	—	57.3	90.6

[1]Activities of daily living.
[2]Instrumental activities of daily living.
[3]These IADL questions were asked as one question in the tax incentive study.

NOTES: National data are for community-based elderly persons surveyed in the Long-Term Care Survey. Idaho and Arizona data are for elderly persons cared for by participants in State tax incentive programs. Sample sizes used for this table were 393 in Idaho and 64 in Arizona.

SOURCE: (Hendrickson et al., 1988).

Caregivers

In Idaho, the vast majority of the tax claimants (more than 94 percent) were children or stepchildren, and the remainder were relatives other than children. Seventy-two percent of claimants were married, compared with 64.7 percent of taxpayers in the general Idaho population. A sizable minority of caregivers, 45 percent, were 55 years of age or over, compared with the general Idaho population, of which 18 percent were 55 years or over. Among caregivers interviewed, 18 percent themselves received social security benefits.

This older group of Idaho caregivers is particularly interesting because it represents an increasing phenomenon of the young-old, who are becoming disabled themselves and are often on fixed incomes, nonetheless accepting primary responsibility for the care of the old-old. About 19 percent of claimants in the age group 60 years of age or over indicated that they were experiencing health problems that limited their daily activities. A majority (58 percent) of these older claimants were in the income category less than $20,000, compared with 44 percent of the claimants under age 60.

In both the Idaho study and the 1982 LTCS, it was found that a majority of caregivers who provide services to the elderly are female. The proportion of female caregivers, 71.5 percent in the nationwide study, was 88 percent in the Idaho program. More than one-half of the Idaho claimants were employed at least part time. A comparable proportion (50 percent) had at least some college education. About 11 percent of Idaho caregivers were college graduates, compared with 16 percent in the general U.S. population.

Arizona tax claimants represent a significantly different mix of informal caregivers from those in the Idaho program. Although a majority of Arizona claimants were adult children (80 percent, compared

with 94 percent in Idaho), 13 percent were spouses of the care recipient. Of the remaining number, 5 percent were siblings or grandchildren and 3 percent were nonrelatives.

Almost 72 percent of Arizona claimants were 55 years of age or over, and an even larger percentage of spouses (78 percent) were in this age category. Almost 36 percent of the claimants were 65 years of age or over, compared with only 12 percent in the general Arizona population. Nearly 55 percent of the tax claimants in Arizona already received social security benefits.

In Arizona, as in Idaho, a sizable percentage (25 percent) of those in the age group 60 years or over indicated that their health conditions limited their function as an informal caregiver for an elderly person. Of these older Arizona claimants, 41 percent had incomes of less than $20,000, compared with 37 percent in the age category under 60 years.

Female claimants represented the majority of those providing services to elderly persons (82 percent), yet nearly 38 percent of the female claimants were employed at least part time. About 56 percent of claimants had at least some college education, and 15 percent were college graduates. As a group, the Arizona claimants were significantly more affluent than those in Idaho. This is not surprising, given the structure of the Arizona program. More than 61 percent of Arizona claimants reported incomes of $20,000 or more, compared with 49 percent of Idaho claimants.

Tax claimants were asked their opinions about the importance of the tax incentive programs. Although 43 percent of claimants in Idaho believed that the tax incentive made a difference, more than three-quarters of the Arizona claimants indicated that the incentive was of real importance. As might be suspected, in Idaho, the percentage who perceived the program as important was higher among those with incomes of less than $20,000 because they could claim a tax credit without listing expenses. The reverse was true in Arizona, with a higher proportion of more affluent claimants perceiving the program as important, perhaps because Arizona claimants were required to itemize all expenses on the tax form.

Assistance level and service use

Idaho tax claimants demonstrated a significantly higher level of commitment to caregiving responsibilities than caregivers who were nonclaimants did. Nearly one-half of those interviewed spent 2 to 3 or more hours per day helping their elderly person with activities of daily living, even though 55 percent of all claimants were employed outside of the home at least on a part-time basis.

Elderly Idaho participants also required fewer formal services provided by community agencies than nonparticipants did. Only 15 percent of elderly persons claimed received any assistance with activities of daily living from community agencies. Study results also suggest that elderly participants required somewhat fewer nursing home days than did nonparticipants, although there were no significant differences in hospital or other institutional days. Given the average age of 81 for elderly participants, it was surprising to discover that only 1 percent had been institutionalized by the end of the first year of the program.

Although Idahoans generally did not contribute to the payment of elderly family members' medical bills, claimants provided more financial support for both medical and daily living expenses than nonclaimants did. More than 69 percent of claimants spent $1,000 or more on the older person's living expenses, with 12 percent contributing $500 or more for out-of-pocket medical expenses.

Arizona claimants were more likely to contribute financial support for medical and ancillary expenses (83 percent contributing support) than either Idaho claimants or Arizona nonclaimant caregivers were. Among Arizona claimants, 37 percent spent $1,000 or more on medical services, with 18 percent contributing $2,000 or more. In terms of ancillary expenses, 50 percent of claimants expended $2,000 or more.

Although Arizona tax claimants contributed greater financial support, their elderly also used more nursing home days than nonparticipants did. Arizona tax claimants contributed less informal services than Arizona nonclaimants or Idaho claimants did. However, the differences between Idaho and Arizona are understandable in light of program differences. Arizona's tax incentives are focused on stimulating informal caregivers to pay a larger amount of the costs for formal services, whereas the Idaho program is focused on encouraging provision of informal services available to the frail elderly. Arizona credits medical and ancillary expenses incurred and excludes informal services, whereas Idaho provides a refundable tax credit for informal services alone. Impact results from this study are summarized in Table 3.

Summary and conclusions

This article contains a description of tax incentive programs in the States of Idaho and Arizona and characteristics of informal caregivers and elderly participants. Participants are compared with both nonparticipants and a national sample from the 1982 Long-Term Care Survey. Although limitations exist with study sample sizes in both Idaho and Arizona, making comparisons somewhat problematic, the results are consistent with those from other national and regional studies: Informal caregivers provide a great deal of support to the frail elderly. In such studies, it has been estimated that nearly three-quarters of the disabled elderly who live in the community rely solely on their informal caregivers for support (Horowitz and Shindelman, 1983; Lammers and Klingman, 1984; Soldo and Sharma, 1980; Stone, Cafferata, and Sangl, 1987).

According to results from the study discussed here, tax incentives for informal caregivers are worth

Table 3

Summary regression results comparison of tax incentive participants and nonparticipants, by dependent variable: Idaho and Arizona, 1981-83

Dependent variable	Idaho participants vs. nonparticipants	Arizona participants vs. nonparticipants
Informal support		
Total using informal services:		
First year of program	+	−
Second year of program	+	*
Percent using informal services:		
First year of program	+	*
Second year of program	+	*
Helper contributions		
Medical care dollars:		
First year of program	+	+
Second year of program	+	+
Daily expense dollars:		
First year of program	+	+
Second year of program	+	+
Institutional placement		
Nursing home days:		
In past 12 months	*	+
In past 24 months	*	+
Hospital days:		
In past 12 months	*	*
In past 24 months	*	*
Noncommunity days:[1]		
In past 12 months	*	+
In past 24 months	*	*

[1]Days in group quarters—domiciliary care facilities, mental institutions, etc.

NOTES: + = participant greater than nonparticipant; significant at the $p = .05$ level. * = no significant difference. − = participant less than nonparticipant; significant at the $p = .05$ level.

SOURCE: (Hendrickson et al., 1988).

considering. Such programs might decrease the amount of formal services used by increasing the amount of informal services available to frail elderly. Moreover, they might serve to shift some of the costs for long-term care from public to private sector sources by encouraging informal caregivers to assume such costs for their elderly. Several study findings lend support to these premises.

First, elderly participants in these programs are considerably older and more impaired than the general elderly population in these States or the national sample from the 1982 LTCS. It appears that the Idaho and Arizona tax incentive programs, without explicitly screening for frailty, are attracting caregivers of the frail elderly. Ninety-six percent of the elderly participants in Idaho and 100 percent of those in Arizona were impaired.

A second finding relates to the types of informal caregiver behavior the tax programs have served to strengthen. In Idaho, tax incentives are principally used to stimulate family caregivers to expand the informal services available to frail elderly. Credit is based on living arrangement rather than documentation for actual expenses incurred. The success of the program is indicated by the significantly greater amount of informal services provided by claimants than by nonclaimants as measured by both total hours of informal services provided and money contributed for medical care and daily living needs of the elderly. As previously noted, elderly participants in Idaho receive a smaller percentage of their help from community agencies and somewhat fewer nursing home days than nonparticipants do.

These findings indicate the effectiveness of Idaho's tax incentive program in stimulating informal services and financial support for daily living expenses of community-based elderly. It achieves this despite the rather modest $100 credit given. These positive findings assume added meaning in light of the fact that almost all of the elderly participating in the program had levels of impairment similar to those of elderly persons who are in nursing homes or are candidates for nursing home admission within a relatively short period of time.

In Arizona, no credit is given for the amount of informal services provided to the elderly. Consequently, it is not surprising to find the following.

- A significantly larger proportion of Arizona than Idaho elderly participants were institutionalized residents of either skilled nursing homes or personal care institutions.
- Arizona elderly claimed were sicker and older than participants in Idaho or elderly persons in the national LTCS sample.
- The vast majority of Arizona claimants made cash outlays for medical and ancillary expenses for their elderly.
- A larger proportion of Arizona than Idaho elderly participants received help in major activities of daily living from community agencies.

The goal of the Arizona tax incentive program, to stimulate informal caregivers to assume greater financial responsibilities for their frail elderly, especially for such services as medical care and formal support services, appears to have been achieved. As was found in Idaho, the Arizona program reached informal caregivers of an extremely vulnerable group of community-based elderly.

In conclusion, a number of policy implications result from this study. First, appropriately structured and implemented tax incentive programs appear to stimulate and strengthen the informal caregiving system for frail vulnerable community-based elderly. Tax incentives appear to serve as an inducement for families and friends to provide a greater amount of the informal care and support in daily living services required by the frail elderly, especially those who are at risk of being institutionalized. It appears that such programs contribute to a slowdown in the rate of migration of elderly from informal to formal services, at least until a critical level of need is reached.

In particular, findings on the Idaho program, with its focus on encouraging intergenerational living arrangements, support this conclusion. The tax program contributed to the amount of support services available to disabled elderly in the community. Also, the use of refundable tax credits does not create a bias toward either formal or informal services, nor does it eliminate low- or moderate-income caregivers from participating in the program. Even those whose income is below the level required in order to pay State income taxes are stimulated to provide informal services.

Second, tax incentive programs can be structured to stimulate informal caregivers to assume some of the costs for formal and ancillary services that might otherwise require public support. The tax incentive program in Arizona was structured to shift costs for medical care, custodial care, and other formal services to the private sector. A potential danger in the current design of the Arizona program is that it will accelerate institutionalization among frail elderly because of the bias of the program toward formal services. However, to date, the Arizona program is benefiting elderly who are older and sicker than those in the Idaho or nationwide samples.

The Arizona experience supports the conclusion that tax incentives can be used to promote the private sector to share costs for formal health care services for frail elderly. The extent to which this will result in a significant savings for the State is unknown at this time. Arizona, unfortunately, does not have ready access to information on the amount of revenue lost as a result of the tax incentive program.

The results of this study suggest that tax incentive programs can be used to stimulate a number of informal caregiver behaviors, ranging from increasing informal caregiver services to paying for formal health care and ancillary services. However, legislators should clearly define which behaviors of informal caregivers are to be affected and should structure incentives and eligibility criteria to match these specific objectives.

Tax incentives represent a major change in policy development. To date, most publicly subsized programs directed at the frail elderly are in the form of entitlement programs, primarily Medicaid and Medicare, which compensate for services delivered by formal caregivers. These programs require huge bureaucracies to administer them at Federal, State, and local levels. Further, because entitlement programs currently reimburse formal caregivers directly for their services, there is a natural tendency for providers to encourage frail elderly to use their services even when less costly alternatives are available. Study data were inadequate for determination of whether the induced informal help substituted for public expenditures. Tax incentive programs are feasible because both Federal and State Governments currently have mechanisms to audit tax forms on an annual basis. However, the incentives may redistribute a portion of the subsidies for long-term care from the welfare or low-income population to others.

Family and informal support services should be utilized to the greatest possible extent, and appropriate recognition and incentives should be given for such services. The tax benefits of caregiving will never equal the costs incurred by informal caregivers of frail elderly. However, such programs may serve as a signaling device to the elderly, informal caregivers, and members of the long-term care system, indicating that informal caregivers are an essential and valued component of the State's approach to long-term care.

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Nursing home regulation: History and expectations

by Thomas G. Morford

This article contains a broad overview of the history of Federal regulation of nursing homes from the perspective of an individual involved directly for a number of years in the development and enforcement of Federal regulatory requirements. The article also contains a summary of the major statutory changes in the Omnibus Budget Reconciliation Act of 1987 that affect nursing homes. Finally, the results of these changes are projected in terms of new outcome-oriented requirements and a broad range of new enforcement authorities.

Introduction

Two major sets of Federal regulatory requirements affect nursing homes. One set contains the requirements that facilities must meet to participate in Medicare and Medicaid (Code of Federal Regulations, 1987a and 1987b). The second set contains the enforcement process that the Federal Government and its agents, the State survey agencies, must follow in inspecting nursing homes and approving or disapproving them for participation (Code of Federal Regulations, 1987c). Both sets of regulations are interrelated in the sense that enforcement is impossible without clear measures of compliance, and, similarly, the best compliance measures are useless without a fair, accountable process for enforcing these measures. In this article, I trace the development of both sets of regulations and attempt to project their short- and long-range future.

Early years

In 1965, when Medicare coverage for hospital services was enacted, the task facing the Federal Government for the regulation of hospitals was relatively simple. Congress had mandated that hospitals accredited by the Joint Commission on Accreditation of Hospitals (now the Joint Commission on Accreditation of Healthcare Organizations) be accepted for participation in Medicare. The Federal Government had only to face the task of dealing with approximately 2,000 nonaccredited hospitals. The solution was simple: Adapt the Joint Commission's requirements. In essence, this is exactly what the Federal Government did through the regulatory process.

The problem of long-term care facilities was not so simple. No regulatory model existed for either skilled (extended care) or intermediate care facilities. Only the Joint Commission "hospital" or "medical" model existed. The task at hand, then, was to take the fundamentals of the hospital regulations and derive a new set of regulations for nursing homes.

The struggle to develop Federal requirements for nursing homes focused on two central concerns: physical safety and adequacy of treatment and services.

The first, physical safety, was conceptually easy to address. At the most elementary level, facilities should be fire safe and clean. Also, staff should not abuse the patients. These concerns were relatively easy to translate into Federal regulation. Today, these requirements are sometimes derisively referred to as the "bricks and mortar" requirements. However, at a time when fire, filth, and patient abuse were not uncommon, these requirements caused a major improvement in America's nursing homes.

The second set of concerns, adequacy of treatment and services, was not so easily addressed. Good outcomes, or at least no adverse outcomes, were the goals. Our aim for hospitals was for patients to have successful operations and to be cured, if possible; our aim for nursing homes was improvement in patient function, or at least no more deterioration than was unavoidable. Clearly, we could not mandate good results through regulation, and the state-of-the-art was such that the idea of regulating for outcomes was little more than a hope for the future. Consequently, surrogate measures that took the form of qualifications, policies, and procedures were the next best thing. For example, one cannot regulate successful surgery in hospitals. However, one can hope to attain the outcome, successful surgery, by requiring that surgeons be qualified, procedures be adequate, etc. In the case of nursing homes, the same general principles apply, and detailed staff qualifications, policies, and procedures were developed and put in place in lieu of direct outcome measures.

Enforcement went through a similar evolution. Early enforcement efforts were focused on safety of the physical plant, sanitation, and other obvious items. Other than physical plant problems that could not be fixed, most deficiencies in facility performance were dealt with through plans of correction. Facilities were rarely terminated from participating in Medicare or Medicaid; the thrust was to get facilities into the programs and to correct problems over time.

Attempting change

The regulations and their enforcement remained largely unchanged into the 1980's. During the early part of the decade, congressional hearings, research, and discussion contributed to a growing body of

Reprint requests: Joanne Gross, Health Care Financing Administration, Health Standards and Quality Bureau, Room 2-D-2, Meadows East Building, 6325 Security Boulevard, Baltimore, Maryland 21207.

concern and knowledge about the nature and regulation of nursing homes. Concurrently, the Federal Government was attempting to develop new sets of regulations. Two particular efforts are worthy of note: the attempt in 1980 to issue regulations that contained new standards for facilities to meet and the attempt in 1982 to issue new enforcement regulations.

For the purposes of this article, a detailed explanation of all of the provisions of these regulatory proposals is of little interest. The significance of these proposals is in their failure. They proved that the Federal Government, for a myriad of reasons, was unable to establish sufficient consensus to reregulate the nursing home industry. The various conflicting forces, including consumer, industry, and State government, made it, in effect, impossible for the Federal Government to establish a reasonable, respectable set of proposed regulations. This had two major results.

New survey process

The first significant result was the development and implementation of the patient care and services survey process. This process was the first major step in implementing a state-of-the-art, outcome-oriented review of nursing homes. Unable to promulgate regulations, the Federal Government instead used the survey process to implement state-of-the-art observation techniques about patient care and health status. Now, instead of just checking a facility's policies and procedures, surveyors observed and interviewed the residents and arrived at compliance decisions based on the outcomes of care. These new techniques were incorporated into the inspection forms and were linked directly to current regulations. The net result was a vastly improved survey process that provided a better way to look at the compliance status of a facility. In effect, it formalized what the better inspectors were doing as a natural part of their regular activities. Formalizing the process forced all surveyors to use this improved methodology, thus assuring uniformity.

Institute of Medicine study

The second significant result of the failure to change regulations was the study conducted by the Institute of Medicine (IOM, 1986). Clearly, suspicion of any proposed Federal action made the use of a disinterested third party critical to the development of any regulation. Funded by the Health Care Financing Administration under congressional pressure, IOM used its prestige and skills to focus the attention of experts on how to regulate nursing homes.

The new long-term care survey process had been in place almost 2 years when the IOM study was completed and results furnished to the Health Care Financing Administration. The IOM study results contained little new information or recommendations that were startling in terms of concept or approach. The key value of the IOM study was that it represented a consensus of experts. For the first time, agreement was reached on major aspects of Federal regulation, including such critical areas as patient rights, quality of care, and quality of life. Thus, the study afforded a unique foundation for the development of new Federal regulations.

The next logical step in the process was to actually implement the IOM recommendations through regulations. The task, although conceptually simple, proved difficult. The primary problem was in the breadth and scope of the IOM recommendations. In brief, the IOM recommendations in many key areas were so general that a simple translation into the concrete specificity of Federal regulation was impossible. For example, IOM recommended that there be a major set of Federal requirements dealing with "quality of life." Such an intention is noble, but the concept is somewhat difficult to translate into something that nursing homes can implement and inspectors can enforce.

The analysis and translation of the IOM recommendations went on for several months. The result was two proposed rules. The first dealt with the requirements that nursing homes must meet to participate in Medicare and Medicaid (*Federal Register*, 1987a), and the second dealt with the processes that the Federal Government would employ to enforce compliance with the requirements (*Federal Register*, 1987b).

New legislation

While the Department of Health and Human Services was going through these processes, Congress was moving to pass nursing home legislation. This effort culminated in enactment of the 1987 Omnibus Budget Reconciliation Act, which contained a significant amount of nursing home reform legislation.

Given the fact that two notices of proposed rule-making already had been published, one might ask why Congress would pass legislation that implemented the IOM recommendations. I believe there were three principal reasons:

- The fact that proposed rules already were published did not offer sufficient assurance that the Federal government would actually publish final rules. The amount of time (more than a year) that it took to produce proposed rules after IOM published its recommendations and the political problems during the last 10 years that resulted in no new Federal regulations certainly caused some to seek a legislative base to guarantee new regulations.
- Although the proposed rules were a practical translation of the IOM recommendations into regulation, some of the specific differences between the two caused concern. Legislation would ensure total implementation of the IOM recommendations.
- Nursing home reform to implement the recommendations of the prestigious IOM was a sure political winner.

Many individual details of the legislation and the proposed rules differ. The major differences fall into three broad categories.

- The legislation contains additional, detailed requirements that nursing homes must meet in the area of patient rights, more detailed requirements for statements of patient funds, a requirement for qualified activities professionals, and more detailed requirements for patient assessments.
- The legislation contains a dramatically different enforcement philosophy incorporating new responsibilities for Federal and State governments. The law provides a new range of penalties, including fines and the appointment of temporary management for nursing homes at the discretion of the Federal or State governments. This is the most significant change. Previously, the role of the Federal Government was limited to terminating a facility's participation in Medicare and/or Medicaid and banning new admissions. Although many State governments had a variety of other penalties under their licensure laws, the Federal Government had no such authority. This new legislation not only adds requirements that all States implement a series of new sanctions, but it provides the Federal Government with three major new penalties: denial of payment after a finding of noncompliance; civil money penalties of up to $10,000 for each day of noncompliance, and appointment of temporary management to ensure either orderly closure or improvements.
- The legislation also went beyond the scope of the proposed Federal regulations in prescribing staffing criteria for nursing homes. The law requires a social worker for facilities with more than 120 beds, and training and competency evaluations for nurses aides. It also establishes a nurses aide registry, and facility administrator qualifications.

Future regulation

The evolution of nursing home requirements and their enforcement has clearly resulted in numerous changes affecting patients, facilities, and government. The two most significant changes in the future will be in the emphasis on patient outcomes and in the responsibility of government (both State and Federal) for compliance by nursing homes.

The basic change overriding all others is the impact on the long-term care system of emphasis on patient outcomes. This emphasis will affect Federal standards, what facilities must do to comply with these standards, and how the Government will enforce the standards.

A major challenge in writing good (i.e., understandable and enforceable) Federal regulations is stating a requirement in clear terms—in the case of nursing homes, defining what is expected for patients. It is all well and good that a facility have appropriate policies on patient rights and care, but the core issue is always the same: What is the status of patients and what is the expected outcome of treatment of these patients?

Changes in our understanding of what constitutes quality in long-term care have resulted in the Federal Government's being able to state requirements in clear, outcome-oriented terms. The basic structural requirements will always remain; for instance, we still want to be sure facilities are fire-safe. However, most of the new regulations will be direct statements of expectations for patient care, quality of life, and patient rights. The fundamental principle underlying these requirements is that residents of long-term care facilities should receive care that improves their health and functional status, or at least minimizes and delays further deterioration to the extent possible.

Explicit statement of expected outcomes (including the avoidance of negative outcomes) will promote effective patient care and strengthen our ability to enforce the standards. Simply put, if there has been any doubt in the nursing home industry about what is expected in terms of patient care, the new requirements should eliminate these doubts. The same generic approach will be carried into the areas of quality of life and patient rights, and we expect similar improvements in those facilities where practices have been less than ideal.

The enforcement of the new Federal standards will be conceptually simpler and more objective than earlier enforcement efforts. Until the implementation of the new long-term care survey process, surveyors were left largely on their own to translate detailed, process-oriented regulations into judgments on patient care. New regulations that tailor the survey process to outcome standards written in clear, resident-oriented terms will assure thorough and rigorous oversight and objective assessment of the quality of care and treatment of nursing home residents.

The actions resulting from a survey determination that a facility is not in compliance will change drastically, with equally dramatic effects on industry and government. Under the new enforcement process, nursing homes generally will not be terminated from participation in Medicare and/or Medicaid. Instead, incremental penalties such as fines or denial of payment will be used, and, ultimately, managers will be appointed to oversee facility operation. In our future enforcement activities, we will determine compliance based on the new outcome standards. The thrust of the enforcement effort will be to provide realistic, effective incentives for facilities to avoid penalties by preventing or correcting quickly the causes of deficiencies. The notion of more severe penalties for more severe problems will at first provide an incentive to stay in compliance or to get into compliance quickly to reduce fiscal penalties. To the extent that a provider is unable to correct deficiencies, government now will assume responsibility for the patients as a practical matter. By the appointment of temporary management to ensure orderly facility closure or improvement in performance, government is now faced with the ultimate responsibility for the care of the residents.

This, coupled with the new responsibility for assuring qualifications of administrators and nurses aides, increases the role of Federal and State governments in nursing home management.

It is always difficult to make predictions. Certainly, the next few years will be somewhat developmental as concepts evolve into practical realities. Many statutory requirements will not take effect until 1990. After that, the new system will operate, be critiqued, and be subject to the close public scrutiny that takes place for all regulatory efforts for nursing homes. Although modifications and refinements will take place, the amount of consensus necessary to redirect regulatory requirements makes it likely that there will be stability and continued momentum to implement reforms. Debate and arguments over specifics of implementation will occur, but the larger view is that the nursing home problem has now been fixed through legislation. Although consensus is difficult in these areas, the overriding perception is that these new requirements will result in generally better care for nursing home residents.

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Respite care: Lessons from a controlled design study

by Rhonda J. V. Montgomery

Findings are reported from a study of respite services in which an experimental design was used to assess the impact of respite on families caring for elderly persons. Almost one-third of the 189 families eligible for respite services offered through Medicare waivers failed to use any services. The majority of families chose respite services in their home for frequent periods of 3 hours. Families spent, on average, only 63 percent of their allotted funds. Respite services appeared to delay nursing home placement among families with adult children as caregivers but encouraged placement when spouses were the primary caregivers.

Introduction

Respite care is a relatively new concept that includes a wide range of services intended to give temporary relief to families caring for disabled members. The development of respite services in the United States accompanied the deinstitutionalization movement for mentally and developmentally disabled persons (Cohen and Warren, 1985). As growing numbers of parents of disabled children experienced the burden of continuous caregiving, they began to seek and develop respite programs. Recognition of the parallel need for relief of family members caring for frail and disabled elderly persons has been even more recent in the United States. Although there is some indication in the literature that respite has been provided in many communities on an informal basis, formal respite services for the elderly are quite new and not widely available. Still, respite services continue to be among the most widely advocated forms of support for families assisting impaired elders in their homes. Both practitioners and researchers have suggested that respite care can relieve the burden of the caregiving situation and, perhaps, even allow families to continue to care for elders who would otherwise have been placed in a nursing home (Brody, 1985; Doty, 1986; Pratt et al., 1985; Scharlach and Frenzel, 1986; Zarit, Todd, and Zarit, 1986). Despite this belief in the benefits of respite, information about respite, particularly the impact of these services on families, is limited, widely scattered, and often difficult to obtain.

One of the difficulties in assessing respite is the multitude of forms that respite services can assume. The defining characteristic of a respite service is the purpose for which it is delivered, i.e., to provide a rest for caregivers (Montgomery, 1986). Respite services can be delivered in the home of a client, in a group setting, or in an institution. Home health care, chore services, companion services, adult day care centers, and nursing home services can be considered respite if they are offered for the purpose of providing the primary caregiver relief from his or her caregiving tasks.

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Reprint requests: Rhonda J. V. Montgomery, Institute of Gerontology, 223 Knapp Building, Wayne State University, Detroit, Michigan 48202.

A more difficult barrier to the assessment of the impact of respite has been the absence of controlled design studies. Several researchers have reported perceived benefits of respite and information about caregiver satisfaction with services. (Indepth reviews can be found in Stone, 1985, and Montgomery, to be published.) However, in no study to date has the impact of respite on caregiving behavior been documented.

This article contains findings regarding respite services that were obtained from a study in which an experimental design was used to assess the impact of support services on families who were caring for an older impaired member. Specifically, attention is given to patterns of respite use, preferences of caregivers for different types of respite service, and the impact of respite on caregiver burden and on nursing home placement.

Methods

Study design

The study, conducted from 1983 through 1987, included 541 family units consisting of an impaired elder and at least one family member who was providing regular care or assistance to the elder. The families were self-referred to the project, having obtained knowledge of the services from social or health service agencies and/or through mass media advertisements and stories. The majority of families first learned of the services through newspaper articles or television public service announcements. To be eligible for the study, the impaired person had to be noninstitutionalized and reside within King County, Washington, and the family member had to live within a 1-hour driving distance of the older person.

Each family was randomly assigned to one of five treatment programs or to the control group. The five treatments were family support programs consisting of various combinations of education and respite services. Of interest here are families in the control group; families in the first treatment group, who were eligible for all project services; and families in the fifth treatment group, who were eligible only for respite.

The respite services were provided to eligible families on a fee-for-service basis. Medicare waivers

were used to provide each eligible family with up to $882 worth of free respite services over a 12-month period. This dollar amount was equivalent to the cost of 14 days of respite care in an institutional setting. Families were able to choose from among three types of respite settings. Respite was available in the home either for short daytime periods or overnight. Respite was also available through three adult day care centers and in a nursing home setting. The intent of the project was to give families flexibility and choice in their use of respite services. Families were able to use their allotted Medicare funds to buy services from any of the participating providers in any combination.

Measures

Data were obtained through interviews conducted with the impaired persons (when possible) and their caregivers. Subjects were interviewed three times. Interviews were conducted before the family units were assigned to one of five treatment groups (T1), after 12 months of service eligibility (T2), and again 20 months after the initial interview (T3).

In addition to basic demographic information, data were collected concerning the elderly person's level of disability, family structure, use of community services, quality of family relationships, and morale. More than one-half of the elders were able to participate in the initial interviews. Information on the remaining 269 elders was collected from family caregivers.

The caregivers were asked about their family structure, the types of tasks they perform, the amount of time they spend performing tasks, the extent to which they find caregiving burdensome, the quality of their relationship with their elderly relative, their morale, and their satisfaction with services provided through the project.

In addition to data collected through interviews, records were kept concerning the utilization of all project services.

Sample characteristics

Because 35 of the families included in the study had two impaired elders, the sample included 576 elders. The median age of the elders was 81.6 years. One-third (33 percent) were male and 67 percent were female. Forty percent of the elderly persons were married and 52 percent were widowed. Many of the elders were isolated, with 22 percent indicating that they had no informal contact with persons other than their immediate families.

The majority of elders had attended high school: 15 percent had some high school education, 20 percent had completed high school, and 35 percent had attended some post-high-school training program or college. The primary source of income for 74 percent of the elders was social security, and the median income for elders was $7,500. The majority of the elders (57 percent) reported their health to be "fair" or "not good at all," and 28 percent of the elders were reported to have a serious mental impairment.

The 541 primary caregivers were relatives who considered themselves to have the primary responsibility for attending to the elders' needs. Approximately 31 percent (167) were the spouse of the elder and 59.3 percent (321) were adult children. All of the spouse caregivers and 64 percent of the caregivers who were adult children resided in the same household as the elder. Consistent with findings in the literature, the majority of the primary caregivers (79 percent) were female. Most of the caregivers (84.5 percent) reported their health to be good, very good, or perfect. Forty percent of the caregivers were employed full time (155) or part time (62). The median household income for primary caregivers was $17,500, and the primary sources of income were their own or a spouse's current job (51 percent) or social security (29 percent).

Primary caregivers reported assisting elders with all aspects of their daily living. Caregivers devoted an average of 8 hours per week to personal care tasks, 15 hours per week to assistance with household tasks, 3 hours per week to business matters, and 7 hours per week to transportation and errands.

Findings

Patterns of use

A total of 189 caregivers were eligible for respite services. According to the project records, 100 of these caregivers used in-home respite care (29 using in-home respite at night); 16 used respite in an adult day care center; and 18 used respite in an institution. Twelve caregivers used more than one type of respite. Seventy caregivers wanted no respite, and in some cases the elder died before the family was able to receive services. In total, 122 caregivers, or 64.6 percent of those eligible, were provided respite. The average number of hours used for in-home care was 3.32 per visit; that for adult day care was 5.0 hours, the maximum allowed per day. The median number of visits was 21 for elders with spouse caregivers and 16 for elders with an adult child as the caregiver. The average number of days in a nursing home was 8.4 per placement.

A detailed study of patterns of use revealed that in-home respite was the form of respite most preferred, independent of the relationship of the caregiver to the elder (i.e., spouse or child). Of the 43 spouses who obtained respite for their elder, 35 (81 percent) used only in-home respite services. Of the 73 adult children who obtained respite services for their parents, 50 (68 percent) used only in-home services. Although the differences in patterns of respite use between spouse and child caregivers were not statistically significant, a higher proportion of adult children (11 caregivers, or 15 percent) than spouses (1 caregiver, or 2 percent) used the nursing home as the only source of respite. Adult day care accounted for about 7 percent of respite services used by all caregivers, and a combination of service use

accounted for about 10 percent of all respite service use. When multiple forms of respite were used, caregivers most often chose in-home respite in combination with adult day care (six caregivers) or nursing home services (five caregivers). The amount of funds spent for each respite form did not vary significantly, although the mean cost for nursing home services ($703) was slightly higher than the cost for the other services ($560 for in-home services and $538 for adult day care). Persons using a combination of services had the highest average cost ($793).

Perhaps the most interesting facts about the use of respite services are those concerning nonuse of services. Of the 189 elders eligible to receive services, 36 percent did not use any. Furthermore, for those who used the services available, the average amount of dollars spent was only 63 percent of that for which they were eligible. The amount of money spent by adult children ($610) differed little from the amount spent by spouses ($591).

It is equally important to note that families providing care for 20 of the elders used more funds for respite than were available through the project. These families paid an average of $183 in out-of-pocket costs for additional respite services.

In the analyses of data, no patterns in the type of respite services used that were related to the income level of the elder or to that of the caregiver were revealed. Elders who used the respite services of a nursing home were found to have higher disability scores, as measured by activities of daily living, than those using other forms of respite had. When health level was measured by a single-item self-report measure, elders using adult day care were reported to be healthier than those using either nursing home respite or in-home respite were.

Approximately 25 percent of the sample for this study consisted of families caring for elders with Alzheimer's disease. Therefore, separate analyses for this group were performed to learn more about their differences from and similarities to caregivers of elders impaired by other diseases and disabilities. The pattern of service use for caregivers of Alzheimer's patients did not vary significantly from that of other caregivers. However, some minor differences were found. A slightly higher proportion of caregivers of Alzheimer's patients attended the caregiver seminars (71 percent versus 66 percent), and a slightly lower percentage of these eligible families used respite services (60 percent versus 70 percent).

Satisfaction and preferences

Regardless of the form of respite used, the overwhelming majority of participants indicated that they were satisfied or very satisfied with the services (73 percent using nursing home services, 80 percent using in-home services, and 88 percent using adult day care services). In addition to being asked about their use of and satisfaction with project services, caregivers were asked about their preferences for support services. Participants were asked whether they would have liked to have used any of the services offered to other treatment groups during the past year. Almost one-half of the participants in both the control group and the group offered respite services only expressed a desire to use all of the educational services. In some cases, these participants had located support groups or participated in seminars offered through other programs and expressed desire for greater participation.

To examine their desire for respite services, caregivers not assigned to the respite program were asked which types of respite they would have liked. The most desired form of respite, which was chosen by more than 56 percent of the respondents, was in-home, respite for short periods (4-5 hours). A large number of caregivers also expressed a desire for overnight respite in their homes (48 percent). Fewer expressed a desire for respite in an adult day care center (28 percent) or an institution (24 percent). Treatment groups did not differ in their preferences for respite services.

Finally, caregivers were asked about other services in the community that they would have liked to use. It is not surprising that the services most frequently desired are chore services (41.4 percent) and home health services (37.7 percent), because these services often are used as respite for the caregiver.

Impact on burden

One of the central research questions of the project concerned the impact of services on the burden that caregivers experienced. Consistent with earlier work of the author (Montgomery, Gonyea, and Hooyman, 1985), a distinction was made in this study between objective and subjective burden. The concrete events, happenings, and activities resulting from caregiving were separated from feelings, attitudes, and emotions expressed about the experience. Objective burden was defined as the extent of disruption or change in various tangible aspects of the caregiver's life and household because of caring for the elderly person. Subjective burden was defined as the extent of perceived change in psychological aspects of stress because of caregiving. A 10-item, 5-point scale was used to measure the burden of caregiving. Caregivers were asked whether various aspects of their lives had changed during the past year as a result of caregiving. A caregiver's subjective burden score is an additive score that includes stress in the relationship, whether the caregiver feels manipulated by the care receiver, nervousness and depression, and a perception of care receivers as overly demanding. A caregiver's objective burden score is the sum of scores for time to oneself, time available for recreation and vacation, time for own work, and time for friends and relatives.

Analysis of variance with repeated measures was used to determine whether the level of caregiver burden was significantly different for caregivers eligible for respite than for caregivers in the control group. No differences between the groups in the level of objective or subjective burden were revealed at T2.

However, in analyses restricted to caregivers assisting elders who continued to reside in the community (excluding those living in a nursing home), a reduction in subjective burden was found. The difference was statistically significant for the treatment groups but not for the control group (Table 1). This pattern was not repeated for the data collected at T3.

Impact on nursing home placement

Monetary savings resulting from delay or prevention of institutionalization has been one of the anticipated benefits of respite care. To test for such delay or prevention of nursing home placement, a series of multiple analyses of variance were performed. (A detailed report can be found in Montgomery and Borgatta, 1987.) The first set of analyses was used to determine whether there were differences between the treatment groups and the control group in the number of months that elders resided in a nursing home during the first 12-month period of the project. These analyses were repeated for the 20-month period followup data. In addition to testing for direct effects of the two treatment groups, analyses were conducted to test for interaction effects related to the level of the elder's health, the elder's income, and the relationship of the caregiver to the elder (spouse or child). No direct effects were found initially, nor were interaction effects found for the level of elder's health or income. When the variable of the generation of the caregiver was entered into the analyses, an interaction effect was revealed. This prompted separate analyses for the samples of spouse caregivers and of adult children caregivers.

As revealed in Tables 2 and 3, the findings for the two subsamples were substantially different. In the case of spouse caregivers, elders in the treatment groups used more months of nursing home services than did elders in the control group. This was true for both the T2 data and T3 data, and the differences were statistically significant ($T = 2.22$, $p \leq .05$). In contrast, for the sample with adult children as caregivers, elders assigned to the treatment groups used fewer months of service than did those in the control group, although the differences were not statistically significant.

To enhance understanding of the events and the impacts of the treatment groups on caregiving behavior, a second series of analyses were performed that included only persons who used at least 1 month of nursing home service. This was done because of the relative rarity of nursing home placement for all of the groups. Because a majority of the families reported no use of nursing home services, the dependent variable was highly skewed toward zero. This secondary analysis revealed patterns that paralleled those found in the initial set of analyses. Families in the control group with spouses as caregivers used fewer months of service than those in the treatment groups did; families in the control group with children as caregivers used more months of service than those in the treatment groups did. These differences were statistically significant.

Significant differences in nursing home use were not found between the two treatment groups (i.e., respite only and respite with education services) for spouse caregivers. However, when the caregiver was an adult child, those eligible for both education and respite reported a higher number of months in the nursing home than did those eligible for respite only. Hence, the educational component of the intervention, like the respite service, appears to have affected spouse caregivers differently from caregivers who were adult children.

Table 1

Analysis of variance with repeated measures on subjective burden for caregivers of elderly persons living in the community from T1 to T2, by service group: King County, Washington, 1983-87

Service group	Sums of squares	Degrees of freedom	F value
Education program and respite	187.69	1	[1]22.9
Control	9.14	1	1.4
Respite only	127.21	1	[1]23.7

[1] $p < .05$.

NOTE: T1 is interview before services were made available. T2 is interview 12 months after services were made available.

SOURCE: (Montgomery and Borgatta, 1987).

Discussion

One of the most important findings of the project is that families who are caring for elders in the community are difficult to reach and resistant to using services. Even after agreeing to participate in the project, almost one-third of the families eligible for respite did not use any services, although all services were offered free of charge. Furthermore, on the average, those families who did use the respite services used less than two-thirds of the funds for which they were eligible. This finding raises some questions about the validity of the prevalent belief of policymakers and practitioners in the "woodwork effect," the notion that new support services for families will create demand. Certainly the families participating in this study did not display a pattern of overuse, nor did they use respite simply because the service was available. It is more likely that efforts of future programs to reduce burden, delay nursing home placement, and reduce costs will be unsuccessful because eligible families cannot be located sufficiently early in their caregiving roles to have an effect on future behavior. It is clear from the relatively homogeneous demographic characteristics of the sample that families who are likely to use support services are not representative of the full range of families confronting the caregiving situation.

A second conclusion to be reached from the study underscores findings of other studies in which the preference of the majority of caregivers for frequent

short-term respite in the home was noted (New York State Department of Social Services, 1985; Connecticut Department of Health Services, 1985; Washington State Department of Social and Health Services, 1986). From both the patterns of respite use and the stated preferences of participants, it is clear that the majority of caregivers prefer short-term in-home respite services. This form of respite not only provided much needed time to attend to shopping errands and medical appointments but was also easier to use. The preparations necessary to transport an elder to another setting were often viewed as formidable. Indeed, some caregivers indicated that respite out of the home really did not provide the caregiver with rest. Additionally, the assistance that respite workers provided with household tasks while attending to the needs of elders was noted as an advantage of in-home respite. However, the data do suggest that a variety of services are needed and that families should be able to choose a service in keeping with personal needs.

Finally, the results of the study once again underscore the differences in the situations of caregivers who are spouses and those who are adult children. Although differences in caregiving activities have been noted in previous studies (Doty, 1986; Horowitz, 1985), the findings reported here point to differences in caregiving situations.

Spouses tend to care for older, less healthy elders than adult children do. In the absence of intervention procedures, they will continue to provide extensive and time-demanding care for their impaired spouse while reporting levels of burden that are no different from those reported by children. Spouses tend to resist nursing home placement at all costs.

Adult children, on the other hand, tend to engage in caregiving tasks that require less hands-on care and fewer hours of service. In the absence of interventions, they are likely to place their parent in a nursing home when the parent begins to require extensive personal care; that is, children end their caregiving careers at about the time that spouses begin identifying themselves as caregivers. It is this basic difference in caregiving patterns that likely accounts for the differential impacts of respite on spouses as opposed to children.

Respite services appear to alter adult children's behavior by delaying nursing home placement. Although the data do not support the conclusion that the treatments altered the number of nursing home placements of elders cared for by children, they do suggest that the families in the treatment groups used fewer months of nursing home service when they did place their elder than did persons in the control group.

In contrast, the data suggest that respite services encourage spouses to place elders in nursing homes. Given the strong resistance to nursing home placement that is found among spouses and the taxing nature of their caregiving tasks, this finding could be viewed as encouraging because it might reflect more appropriate use of available services. The finding also means that future studies should be focused on the issue of quality of care for homebound elders. The

Table 2

Mean number of months spent in nursing homes by elderly persons with spouse caregivers at T2 and T3, by service group: King County, Washington, 1983-87

	T2			T3		
Service group	Number in sample	Mean months in nursing home	Standard deviation	Number in sample	Mean months in nursing home	Standard deviation
Education program and respite	36	1.69	3.26	35	3.58	6.22
Respite only	30	2.47	4.25	29	4.10	6.55
Control	17	.06	.24	15	.13	.35

NOTE: T2 is interview 12 months after services were made available. T3 is interview 20 months after services were made available.

SOURCE: (Montgomery and Borgatta, 1987).

Table 3

Mean number of months spent in nursing homes by elderly persons with adult child caregivers at T2 and T3, by service group: King County, Washington, 1983-87

	T2			T3		
Service group	Number in sample	Mean months in nursing home	Standard deviation	Number in sample	Mean months in nursing home	Standard deviation
Education program and respite	53	1.24	2.85	51	2.74	5.09
Respite only	64	.94	2.51	53	2.19	4.67
Control	69	1.65	3.52	69	3.54	6.45

NOTE: T2 is interview 12 months after services were made available. T3 is interview 20 months after services were made available.

SOURCE: (Montgomery and Borgatta, 1987).

combination of spouse resistance to nursing home placement and intense hands-on care tasks should prompt some concern.

Because the data suggest opposing outcomes for adult child caregivers and spouse caregivers, it might be concluded that the overall costs and benefits offset one another and therefore make little difference. Although the conclusion that services lead to cost savings is not warranted, a conclusion that they make no difference is equally inappropriate. The findings suggest that respite care leads to more appropriate use of services for both spouses and children, which can easily translate into human benefits despite any lack of cost savings. The fact that this pattern persists from the 12-month followup to the 20-month followup suggests that the impact of the respite services is not just short term. Rather, the support strategies appear to influence caregiving behavior over an extended period of time.

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Life care: New options for financing and delivering long-term care

by Marc A. Cohen

Continuing care retirement communities provide full insurance protection for and access to long-term care services. A new model, which retains risk pooling for long-term care and provides benefits and protections similar to continuing care retirement communities, is called life care at home. Life care at home combines the financial and health security of a continuing care retirement community with the freedom and independence of living at home and is affordable to a greater proportion of elderly people. The feasibility of this model is, in part, supported by the fact that nursing home use in the fully insured access-guaranteed continuing care retirement community is not that different from use among the elderly living in the general community.

Introduction

The number of elderly people needing long-term care because of functional impairment will continue to rise dramatically in the years ahead. The provision and finance of such care falls most heavily on the elderly themselves and their families. Nearly three-quarters of the noninstitutionalized disabled population receive all needed assistance from spouses and adult children. Moreover, Medicare coverage does not extend to custodial care, so that nearly 40 percent of nursing home payments are direct out-of-pocket expenditures. Although private long-term care insurance is emerging, few policies offer the type of protection that would ensure against the catastrophic costs of long-term care. Thus, many of the elderly who require long-term care services deplete their financial resources to pay for such care and then quality for Medicaid coverage. Given the constraints on Federal and State government financing for long-term care, there is an urgent need to develop and implement alternative models for the finance and delivery of long-term care.

One such model is the continuing care retirement community (CCRC). As a result of the considerable growth in the CCRC or life care industry throughout the last decade, the CCRC is receiving increasing attention as a method of providing and financing long-term care for the elderly (Tell et al., 1987a; Branch, 1987).

An important feature of CCRC's is that they combine the finance and delivery of long-term care services within a single organizational context and insure residents against the catastrophic costs of long-term care. CCRC's offer housing and related services that often include medical and preventive health care services and nursing home care. A typical community has about 200 apartments. Members usually pay an entrance fee and a monthly charge. Two-thirds of all CCRC's provide their contracting members with some level of insurance for nursing home care, and one-third are strictly fee-for-service. Specifically, about one-third of the communities offer lifetime coverage for long-term care on a pooled basis from residents' entry and monthly fees. Thus, residents who move into a nursing center pay no more than they paid when they were living in their apartments. These are called "Type A" communities. The other one-third of CCRC's provide a specified amount of nursing care at little or no additional cost to a member who moves permanently from an independent living unit into the CCRC's nursing home. After this specified amount, the resident pays for nursing care on a full fee-for-service basis. These are called "Type B" communities.

The Type C communities are strictly fee for service although access to nursing home care may be guaranteed. As of 1986, median entry and monthly fees for a two-bedroom unit were $65,000 and $800, respectively (American Association of Homes for the Aging and Ernst and Whinney, 1987). There is great variation in CCRC fees by age of the community and by contract type. The median masks somewhat the recent trend toward high cost CCRC's. In fact, CCRC's with entry fees above $150,000 and monthly fees in excess of $1,500 are not uncommon today. It is not surprising, therefore, that this retirement option as it is currently configured is only affordable to a small proportion of the elderly. One source estimates that less than 10 percent of all elderly persons could afford to join a CCRC (Cohen et al., 1987).

Continuing care retirement communities

Attitudes toward joining

People who join continuing care retirement communities (CCRC's) do so for a variety of reasons. The health guarantees embodying both access to care and insurance for care seem to be the element that most attracts people to join Type A communities. In a survey of over 1,400 residents and persons on waiting lists to two Type A CCRC's, access to medical care and access to long-term care services to maintain independence were cited most often as very important reasons to join the CCRC (Cohen et al., 1988a). Moreover, two-thirds of the respondents indicated

Reprint requests: Marc A. Cohen, Ph.D., Senior Product Development Manager, LifePlans, Inc., One University Office Park, Suite 400, 51 Sawyer Road, Waltham, Massachusetts 02143.

that protection against the costs of long-term care was a very important reason in their decision to join a CCRC.

People considering joining CCRC's also have a number of concerns, many of which are related to the issues of lifestyle and location. In addition to high costs, other primary concerns about joining a CCRC include living near too many old people and being far away from shopping or family and friends (Cohen et al., 1988a). Having to move from the family home is seen as a major disadvantage of the CCRC. It is indicated from surveys that the elderly prefer to remain in their own homes and that most do not desire age-segregated living (Tell et al., 1987b). For many, the campus lifestyle is a disadvantage because it is seen as a restriction on independence or privacy.

Growth in the market

Although less than .5 percent of the elderly are enrolled in CCRC's, the CCRC industry is rapidly growing. As of 1986, 100,000 to 200,000 elderly people lived in about 700 CCRC's (American Association of Homes for the Aging and Ernst and Whinney, 1987). Current predictions suggest that, by 1999, there will be 1,500 CCRC's with nearly 450,000 elderly residents, or about 1.3 percent of all persons aged 65 years or over (Tell et al., 1987a). Although these numbers in absolute terms are quite small, they reflect an increase of over 20 percent in the CCRC market. Moreover, the basic principles on which CCRC's rest, risk pooling for long-term care and guaranteed access to services, may be applicable to less costly models that could reach many more middleclass elderly. What CCRC's demonstrate is that risk pooling for all long-term care can be accomplished successfully with relatively small populations.

Trends in the industry

The life care industry, which first embraced the features of risk pooling for long-term care, seems to be moving away from these concepts. Newer CCRC's emphasize lifestyle and housing while offering little or, in some cases, no opportunity for insuring long-term care costs. The move away from fully insured life care models may be caused by a growing belief that the long-term care risk is not insurable. Experience has shown, however, that the risk can be shared across a relatively small elderly cohort, as has been done in many life care communities, some of which have been operating successfully for decades. Of the approximately 40 community failures to date, few if any, can be attributed to long-term care costs in an experience-related system. The majority of failures emerged from the fact that the communities offered contracts that limited the amount of increase to monthly fees that could be applied to cover increasing costs of services (Tell et al., 1987a). Had communities had the flexibility to increase monthly fees, these failures might not have occurred.

Most communities are successful in managing the risks associated with full coverage for long-term care. Entrance screens are used to ensure that only relatively healthy individuals enter the community. Moreover, the campus environment encourages the provision of informal support to residents. Finally, there are a wide array of formal services to help individuals live independently in their apartments.

Service utilization

Analyzed was longitudinal information about the utilization patterns of 3,316 residents from six Type A CCRC's, five of which opened after 1967. These communities offered full health-care guarantees for residents; that is, nursing home care was fully insured. Data collected from case files reflect residents' utilization histories from the opening date of the community for these five and from 1967 for the sixth CCRC that opened in 1960. Thus, the analysis of patterns of nursing home use is made in the context of a post-Medicare and post-Medicaid environment. Because the CCRC is a closed system, other changes occurring in the service system outside the CCRC, such as limitations on the number of nursing home beds, would have minimal effects on use within the CCRC.

Complete detailed information on all residents' use of health care services throughout their tenure in the community was available. The date, duration, and location of all resident movements to different care settings were recorded in a case file. The movement history includes transfers to hospitals, nursing homes, personal care facilities, independent living units, and deaths and withdrawals from the community. In essence, the data set afforded the opportunity to follow an initially healthy entry cohort for up to 15 years.

To make comparisons with the utilization experience of the elderly in the general population, information from other published studies was combined. The lifetime risk of nursing home entry among the general elderly population was taken from a lifetable analysis estimating the risk of nursing home entry for a 1977 cohort of Medicare beneficiaries (Cohen et al., 1986). The length of stay pattern to which the experience of CCRC residents was compared is based on the use of a 1976 admissions cohort (Meiners and Trapnell, 1984). Because most of the data on the CCRC sample is based on the utilization experience of residents during the middle to late 1970's, comparisons between the data sets are appropriate.

Determining nursing home entry risk

Studying nursing home use patterns in CCRC's is important for a number of reasons. First, such an analysis provides information on nursing home use in an insured environment. This is important to insurers and developers of new programs who are leery of the unknown liability that they may incur as a result of

guaranteed access and full insurance coverage. Studying use in the CCRC affords the opportunity to learn about the effect of insurance-induced demand and the effects of a managed-care delivery system on lifetime use. Second, data from such an analysis may suggest alternative service roles or practice patterns for the nursing home that may result in an insured and access-guaranteed environment.

The transfer histories of both residents who have died before the last observation period and those who were still alive during the last observation period were recorded. Survival analysis, a statistical technique that evaluates the time interval between a starting event and a terminal event, was used to estimate risk. For the purposes of the analysis, the starting event was defined as "entrance into the CCRC"; and the terminal event was defined as "first entrance into a nursing home." The survival time was then estimated as the time between entry into the community and entry into a nursing home. These results are summarized in Table 1.

At 65 years of age, CCRC residents face nearly 1.5 times the risk of nursing home entry over their lifetime than do the elderly in the general community.

Table 1

Risk of nursing home entry for the elderly in the general population and continuing care retirement community (CCRC) residents

	General population		CCRC residents
Age group	Estimated lifetime risk	Sex-adjusted lifetime risk	Estimated lifetime risk
	Percent of population		
65-69 years	35.6	38.6	55.0
70-74 years	36.9	41.9	59.1
75-79 years	40.1	44.5	65.1
80-84 years	41.6	43.4	67.0
85 years or over	38.8	39.5	82.7

SOURCE: (Cohen et al., 1988b and Cohen, Tell, and Wallack, 1986).

The greatest difference in risk rates occurs for those 85 years of age or over. This may reflect differences in life-expectancy as well as age-specific rates of morbidity. CCRC residents are also more likely to have repeat entries to the nursing home (Cohen et al., 1988b). The average length of stay per admission among this CCRC population and among the general elderly population are shown in Table 2.

The length of stay per admission across all age groups is shorter in a CCRC than in the general community. Slightly less than one-half of the nursing home entrants in the general community have stays of less than 3 months, compared with nearly two-thirds of the CCRC study population. For both groups, the distribution of length of stay is skewed with only a few entrants staying a long time in the nursing home.

Taken together, these results indicate that lifetime utilization under a fully insured access-guaranteed system like the CCRC is comparable to lifetime use in the general population, at least through 85 years of age. In the CCRC, as in the general population, a small group of residents account for most of the costs. In the general population, about 15 percent of the elderly account for 90 percent of the costs; in the CCRC, however, about 20 percent of residents account for 90 percent of the costs (Cohen et al., 1988b). It is this small probability of incurring a catastrophic expense that makes nursing home care an ideal candidate for risk pooling in the general community as well as in the CCRC.

Explaining utilization differences

There are a number of factors that account for differences in utilization rates between CCRC residents and the elderly in the general population. Some of the more important factors include the following:

Table 2

Length of stay per admission for an admissions cohort of elderly and continuing care retirement community (CCRC) nursing home entrants, by age cohort

	Entry age					
	65-74 years		75-84 years		85 years or over	
Length of stay	General	CCRC	General	CCRC	General	CCRC
	Percent of population					
Less than 1 month	29	66	27	53	24	43
2-6 months	31	19	26	27	30	27
7-12 months	10	5	12	8	11	11
1-3 years	16	7	17	9	21	16
3 years or more	14	3	18	3	14	3
	Average number of days					
	419	129	497	159	425	231
	Median number of days					
	56	13	66	25	123	48

SOURCES: (Cohen et al., 1988b; Meiners and Trapnell, 1984).

- The probable differences in morbidity and mortality rates of the CCRC population that, in part, result from the use of entry screens.
- The varying availability of substitute services.
- The differing behavioral responses to financial and other incentives on the part of residents, managers, and referral sources in the CCRC.
- The impact on utilization among the elderly in the general population of the nature of public financing (Medicaid) of nursing home care.

Nursing homes in these CCRC's seem to be used differently than those in the general community; there appears to be a much greater use of the homes for short-term, presumably recuperative, care than in the general community. This may indicate a more efficient use of hospital services because CCRC residents always have available to them a nursing home bed to which they can be discharged, whereas those in the general community do not. Or it could suggest greater use of CCRC-provided apartment-based services that can substitute for custodial nursing care. With respect to health maintenance organizations (HMO's), for example, the effects of prepayment on the use of services indicated that the style of medicine was less markedly hospital intensive and, consequently, less expensive (Manning et al., 1984). The same may be true for CCRC's: The integration of the nursing home with acute care and apartment-based services may encourage more cost-effective patterns of use. Thus, the way in which a delivery system manages substitute and complementary services, such as recuperative care and home-based care, can have a significant impact on nursing home use.

Developing less costly life-care models

Findings presented here support the feasibility of risk sharing for long-term care even in the context of guaranteed access to services. This is encouraging to those interested in developing off-campus models of CCRC's that provide insurance protection and access to the elderly living in their own homes. Tell et al. (1987c) developed one such model called "life care at home" (LCAH). This model is a variation on a CCRC, providing most of the same benefits to the elderly who prefer to remain in their own homes instead of moving to a central campus, but at a lower cost. LCAH combines the financial and health security of a CCRC with the freedom and independence of living at home because, if needed, members receive services in their own homes.

In essence, individuals join an LCAH plan by paying an upfront fee and monthly payments to the sponsoring organization. These payments guarantee them access to all needed services. Moreover, they are insured for most of the costs of the services provided by the plan. There are numerous possible sponsoring arrangements for plans such as a CCRC sponsor who could offer the plan as an extension of its campus option; an HMO sponsor; and a joint venture by different kinds of sponsors. This latter approach is currently being demonstrated in northeast Philadelphia. Jeanes Hospital and Foulkeways Retirement Community are sponsoring an LCAH plan that has already begun marketing to individuals.

LCAH insures enrollees against the catastrophic costs of long-term care and provides a care-managed delivery system to ensure access to needed services. LCAH differs from current long-term care insurance offerings in at least two important ways. First, the difference between LCAH and long-term care insurance is similar to the difference between an HMO and traditional health insurance. That is, in addition to financing needed long-term care, LCAH manages and provides care. Also, a greater emphasis is placed on home care services in LCAH, compared with most long-term care insurance policies that cover primarily nursing home care and offer little, if any, in-home benefits. It is more comprehensive than the social health maintenance organization (SHMO). The SHMO provides limited chronic care coverage for nursing home care, whereas LCAH provides comprehensive protection for both nursing home and home and community-based care. Unlike the CCRC, however, LCAH does not provide housing services. The costs of joining LCAH are about $7,500 in entry fees and between $180 and $225 a month. LCAH makes the life care concept available and affordable to a broader segment of the elderly population. Between one-quarter and one-half of all elderly could afford to buy into an LCAH program (Cohen et al., 1987).

LCAH incorporates a number of risk management techniques to reduce the risk of inappropriate use or overutilization of covered services. These techniques include specifying appropriate criteria to determine eligibility for enrollment and for benefits, creating benefit limits, employing cost-sharing techniques, and establishing a strong case management system.

There will be numerous challenges regarding the implementation of LCAH plans including designing a viable and marketable benefit package, avoiding adverse selection, securing the participation of high-quality service providers, and meeting regulatory requirements. Furthermore, it is unclear how the LCAH model will fit into existing health care and insurance regulatory structures. These and other issues will be addressed as plans for demonstrations of the various model types are further developed.

Joining life care at home

We assessed interest in life care at home through a combination of telephone and mail surveys to more than 4,000 income-eligible elderly throughout the United States. Consistently, more than one-half of the respondents indicated that LCAH would meet their current or future needs very well. Moreover, nearly one-quarter of respondents said that the costs of joining LCAH were reasonable. Finally, when interest is combined with ability to pay and eligibility for LCAH on the basis of health, somewhere between 10 percent and 25 percent of respondents could be

considered viable prospects for joining a LCAH program. (Tell et al., 1987b; Cohen, 1987).

What people liked best about LCAH was its emphasis on services to help keep people living at home independently for as long as possible. Health guarantees and access to services were also assessed to be important features of the plan. Respondents' greatest concerns related to program cost and the ability of a sponsor to successfully implement the program.

These results probably understate the potential demand for life care models such as LCAH. As the elderly become more aware of their lack of coverage for and exposure to the catastrophic costs of long-term care, they are likely to demand such protection. To a large extent, current demand for all models of long-term care insurance is constrained by misperceptions about the limited extent of Medicare coverage for chronic care services.

Policy implications

Life care has the potential to protect older persons against the leading cause of catastrophic health expenditures in the United States. One life care model, the CCRC, offers an effective model with many years of experience at combining the finance and delivery of long-term care services. Its benefits to the elderly include financial protection; assured access to high-quality, long-term care; and personal security and maintenance of independent living. Lower cost models of life care have the ability to generate potential Medicaid savings by delaying or eliminating spend down (Cohen et al., 1988c).

States are beginning to play a more active role in facilitating the development of these programs. Some city and State governments have already begun to explore ways to offer subsidized or lower cost CCRC's for mixed-income populations. States can foster public acceptance of these programs by encouraging and assisting public information. The elderly need to be informed as to the limitations in coverage of Medicare and Medicaid for long-term care costs (American Association of Retired Persons, 1986). This will help create consumer demand for insurance models of life care. Also, States may want to create incentives for the purchase of products such as long-term care insurance with deep coverage or programs like LCAH or lower-cost CCRC's. For example, a Medicaid program may want to disregard for eligibility purposes an amount of liquid assets equal to some percentage of the premium or monthly fee paid to a comprehensive insurance program.

To assure the quality of products, States may want to certify certain long-term care insurance products, the purchase of which would entitle the purchaser to a tax benefit. Closely related, there is a need to remove barriers to the development of private markets for these products. One State, for example, prohibits life care contracts for health care. An important role for States is in setting minimum standards for products and eliminating legal barriers to their development. Finally, to assist program developers establish sound insurance programs, it is important to facilitate shared information on long-term care utilization and cost. Public investment in data development and acquisition is an additional important role for the public sector.

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Long-term care in international perspective

by Pamela Doty

The findings of a study of long-term care policies in 18 countries are reported in this article. Initial data were collected by a questionnaire survey under the auspices of the International Social Security Association. These data were supplemented by published documents and government statistics obtained while researching long-term care for the International Social Security Association and, subsequently, for the Organization for Economic Cooperation and Development. The principal focus is a cross-national comparison of institutionalization rates for the elderly. Differences in use rates for medically oriented facilities are less than those for nonmedical residential long-term care facilities. Only a small amount of variation is related to demographic differences, such as older or more female elderly populations in those countries with higher institutionalization rates. Included also is a description of the modes of financing long-term care.

Introduction

As life expectancy at older ages increases, the United States and other developed countries are experiencing what Olshansky and Ault (1986) term the fourth stage of the epidemiologic transition, the "age of delayed degenerative diseases." Accordingly, the organization and financing of long-term care for the elderly is becoming a priority issue for health policymakers. This article is based on the findings of a 1986 cross-national study of long-term care policies by the Health Care Financing Administration for the Permanent Committee on Medical Care and Sickness Insurance of the International Social Security Association (ISSA), supplemented by more recent research for the Organization for Economic Cooperation and Development (OECD).

Methodology and issues

A questionnaire was sent to ISSA member organizations concerned with the financing of health services in their respective countries. Data obtained from the replies were supplemented with data from published sources, including government statistics and reports obtained from a network of contacts in the various countries.

The questionnaire was distributed in October 1984 to ISSA member organizations in 27 countries, covering all regions of the world and including less developed as well as more developed countries. The 18 replies received were primarily from the more developed countries. Great Britain did not participate in the original ISSA survey (and therefore is not included in some of the comparative tables presented, but it was included in subsequent research for OECD that focused on long-term care financing policies.

Analysis of the questionnaire replies and supplemental material covered a wide variety of issues, not all of which will be discussed. The focus of this article is on what was learned with respect to cross-national variations in elderly institutionalization rates. These differential patterns of institutional use are of particular interest because the most frequently cited long-term care policy concern in most of the countries surveyed was the high cost of institutional services. In addition, most of the advanced industrial countries surveyed considered their institutional long-term care use rates to be higher than necessary or desirable. Most also reported pursuing deliberate policies to expand home- and community-based long-term care services as a means of reducing institutional use.

Reprint requests: Pamela Doty, Ph.D., Senior Analyst, Office of the Assistant Secretary for Planning and Evaluation, U.S. Department of Health and Human Services, Room 410E, Hubert H. Humphrey Building, 200 Independence Avenue, SW., Washington, D.C. 20201.

Comparative institutionalization rates

Institutionalization refers to extended stays in any type of inpatient facility or residential care setting. Nearly all the advanced industrial countries judged their elderly institutionalization rates to be too high. However, the actual reported institutionalization rates in these countries varied considerably—from a low of 3.6-4.5 percent in the Federal Republic of Germany (FRG) to more than double that rate at 8.7-10.5 percent in Sweden and 10.9 percent in The Netherlands.

Definitional issues

The questionnaire asked ISSA member agencies to report use rates among the elderly population (those 65 years of age or over) for long-term care in medically oriented residential facilities (e.g., chronic-care hospitals, geriatric wings of acute care hospitals, nursing homes, rehabilitation hospitals) and nonmedical residential facilities (e.g., homes for the aged, frail ambulant homes, personal care homes, board and care homes). In addition, the questionnaire asked for use rates for the following:

- Other sheltered living arrangements (e.g., foster care or family-style living arrangements with nonrelatives who are paid to provide such services, and small group-shared housing for the elderly).
- Subsidized housing for the disabled elderly (e.g., apartment complexes with special services or design features).

- Professional nursing and therapy services at home (provided by licensed or certified nurses and therapists specializing in physical, speech, or occupational therapy).
- Nonprofessional nursing services at home (aides who help with bathing, dressing, eating, toileting, mobility, or who provide day or night sitting services).
- Homemaker or chore services (help with shopping, cooking, cleaning, laundry, and errands).
- Day care for the elderly (day program of social and/or medical services).
- Meals (e.g., meals delivered to the elderly person's home or in a readily accessible central location).

Most countries were able to supply institutional use rates, but only a few countries were able to supply rates of use for noninstitutional services. Only for Australia, Israel, France, The Netherlands, Sweden, and New Zealand (and in later research, for Britain), was it possible to obtain reasonably up-to-date national measures of use rates for nonmedical long-term care services (principally, homemaker or chore services).

The questionnaire defined institutionalization in terms of generic facility categories (i.e., medically oriented versus nonmedical residential care) and presented examples of what such facilities might be called. This was done because an initial literature review and discussions with experts on particular countries had revealed a wide variety of terminology used to label long-term care institutions. It quickly became apparent that a question about nursing home use, for example, could produce misleading results. In many countries, this term is not used to characterize long-term care facilities for the elderly or has a much more limited meaning than it does in the United States. In Britain, for example, the term "nursing home" is only used to refer to freestanding, private proprietary facilities of which, until quite recently, there were still very few. Thus, a British reply to a question about nursing home use would exclude information about hospital-based long-term care provided in geriatric wards of National Health Service hospitals or care provided in "local authority" homes for the aged.

Indeed, an analysis of the various terms used to describe long-term care facilities and the reality that lies behind these labels reveals much about the changing nature of long-term care as a distinct service. To get a sense of the evolution of long-term care policy both within and across countries, one must understand what different types of facilities are called in a given country, whether their names reflect the type of care they provide now or the type of care they provided in the past, and how the balance of care provided in different types of institutional settings has shifted. It is through this type of analysis, that one comes to understand that Belgian "rest homes" are no longer purely residential facilities as the name would imply; but, through a deliberate policy referred to as "medicalization," they are being converted into facilities similar to what we in the United States would call nursing homes.

The questionnaire also sought to uncover hidden forms of institutionalization by asking questions about the use of mental hospitals for long-term care of the elderly (especially elderly suffering from dementia disorders) and about the unintended use of acute care hospital beds for long-term care. It is important to distinguish between care provided in hospital-based long-term care facilities and long-term care that is provided in general hospitals simply because there is no place for an older person in need of long-term care to go following an acute episode. The former is a deliberate component of the long-term care delivery system; the latter is a problem arising out of the health-care system's failure to address explicitly the long-term care needs of the elderly. Both Britain and the FRG are quite concerned about such inappropriate use of hospitals for long-term care. The problem appears particularly severe in Britain, where so-called bed blockage by the elderly is blamed for limiting the access of younger patients to hospital care. In particular, it is said to cause excessively long waiting times for elective surgical procedures. A still different situation is represented by Japan. Until very recently, when concerns about rising hospital costs began to emerge, the difference between acute care and long-term care had not been considered particularly significant. Neither policymakers nor practitioners thought it important to ensure that only acute illnesses were treated in the hospital and long-term care needs met in separate settings.

The role of the hospital and the mental hospital in long-term care is an important question, again, for understanding how the nature of the medical, social, and other care needs of the elderly have been and continue to be redefined. Analysis of historical institutionalization rates of the elderly in the United States, for example, show a very different pattern if one looks at nursing home use in the broader context of changing use rates for mental hospitals, county homes for the aged, and retirement hotels. (Office of the Assistant Secretary for Planning and Evaluation, 1981). An examination of nursing home use alone gives the erroneous impression that institutionalization of the elderly rose dramatically during the 1950's and after 1965 with the passage of Medicaid. If one looks at the broader pattern of institutionalization of the elderly, however, it becomes clear that (with the exception of the elderly 85 years of age or over among whom actual rates of institutional use did increase) institutionalization of the elderly did not increase with the passage of Medicaid. Rather, what actually occurred was a massive shift in the types of institutions in which the elderly were to be found—a shift away from State mental hospitals as well as religious or county-run homes for the aged that provided little medical or nursing care toward the use of private for-profit or nonprofit nursing homes that conformed to a medical model of institutional long-term care. At the same time, the declining availability of retirement hotels since the 1950's decreased the

supply of sheltered housing alternatives available to low-income, frail elderly not in need of medical or nursing services.

Given the current emphasis on alternatives to institutionalization for the elderly as a policy goal in most developed countries, it is especially important to capture—insofar as possible—the full range of institutions and sheltered housing arrangements that provide long-term care to the elderly. From this, it can be determined whether institutionalization is actually on the decline or whether one type of institution is declining only to be replaced by another as the nature of the long-term care needs of the elderly are redefined.

For all the countries included in the study, data were requested that would permit the computation of a global institutionalization rate that included all major institutional settings. For some countries, the questionnaire reply supplied reasonably complete data on the full range of institutional settings. In other cases, it was possible to fill in the gaps in the questionnaire reply from other sources. In a few cases, most notably the Federal Republic of Germany, the data supplied were incomplete and/or not up to date. Where different sources of data on institutionalization rates cite different figures, a country's institutionalization rate is given as a range between the highest and lowest reported figures.

Explaining variation in institutionalization rates

The study sought to gauge how much of the variation in reported cross-national institutionalization rates can be attributed to demographic factors such as population age or sex structure (that is older and more heavily female populations). This was done by projecting the institutional use rate of the elderly 65 years of age or over for each country as if its age- and sex-specific institutional use rates were the same as those in the United States as measured by the National Center for Health Statistics (1979). This procedure, in effect, adjusts elderly medical institutional use rates for cross-national differences in the age structure of the elderly population (i.e., relative proportion of the population 65 years of age or over that is in the age cohorts 65-69 years, 70-79 years, and 80 years of age or over) and for differences in male versus female longevity and use of services.

In projecting use rates for nonmedical institutions (variously known in the United States as personal care homes, domiciliary care facilities, and board and care homes), I was unfortunately hampered by the lack of an equally precise, reliable source of U.S. data as exists for nursing homes. Although I might have chosen to use age- and sex-specific rates for residence in nonmedical group quarters from the U.S. census, there is good reason to believe, based on other surveys, that census figures somewhat underestimate the percentages of U.S. elderly in nonmedical residential long-term care facilities. Accordingly, I have used the best estimates of the elderly 65 years of age or over in these facilities in 1980 derived from special studies (Sherwood, Mor, and Gutkin, 1981; Stone, 1984). These estimates are for the population 65 years of age or over as a whole; they are not age- or sex-specific. Then future projections were based on the ratio of residents in nonmedical facilities to residents in medical facilities (0.27).

Use of U.S. age- and sex-specific institutionalization rates as the comparison standard should not be interpreted as having normative significance. That is, I do not in any way mean to imply that other countries' institutionalization rates should be more like those of the United States. The study employed U.S. age- and sex-specific rates of nursing home use as the standard of comparison only because these rates were more readily available.

Two methodological points should be noted before moving to a discussion of the tables. First, for purposes of consistency, United Nations (U.N.) population figures have been used to make the projections. Use of U.N. population figures results in a slightly lower use rate for nursing homes in the United States than the official figures typically quoted in U.S. publications. U.S. Government reports typically round off the institutionalization rate found in the 1977 Nursing Home Survey (National Center for Health Statistics, 1979) to a flat 5 percent. More specialized publications present slightly varying figures, depending on the year being projected and whether or not projections forward from 1977 have been age adjusted only or also sex adjusted. Thus, Manton and Liu's (1984) age- and sex-adjusted projection for 1980 is 4.6 percent, whereas the U.S. Bureau of the Census (Taeuber, 1983) age-adjusted projection for 1982 is 4.9 percent. The United Nations' population figures for the United States used in this analysis yield a projected rate of 4.5 percent for 1980 because they slightly underestimate the numbers of elderly in older age cohorts, compared with the Social Security Administration's figures that Manton and Liu used in making their projection of institutionalization as of 1980. In addition, U.N. population figures do not disagregate age cohorts above 80 years of age. The institutionalization rate for the U.S. elderly in the age cohort 80-84 years is a little more than 10 percent—the institutionalization rate more than doubles to almost 24 percent among the elderly 85 years of age or over. Lack of age breakdowns for cohorts over 80 years of age in the U.N. population figures will likely result in some underestimating of the effects of population age structure on institutionalization rates in the following analysis.

The tables of cross-national projected institutional use rates, based on U.S. age- and sex-specific institutional rates, indicate that the differences in use rates that would be anticipated because certain countries have older, more female elderly populations are considerably less than the variations in actual use rates (Tables 1-3). As for 1980, only France and The Netherlands would be expected to have higher use rates of long-term care facilities based on population

characteristics alone, although the differences (0.3 percent in the case of France) are minor. Only Costa Rica, Israel, and Japan would be expected to have more than negligibly lower institutional use rates based on elderly population characteristics (Table 1). By 1985, however, somewhat greater differences begin to appear, with Belgium, France, the Federal Republic of Germany (FRG), and Switzerland showing increases in projected use rates of long-term care institutions that are more than slightly above U.S. rates because of population aging and greater proportions of elderly females (Table 2).

When the actual use rates reported for each country are compared with the projected use rates (Table 3), it appears that differences in age and sex population structure alone explain little of the variance. Population characteristics alone would suggest quite similar use rates for the United States, The Netherlands, and Sweden, yet both of these countries use institutional services at almost twice the rate of the United States. In The Netherlands, however, use of medical institutions is one-third less than the U.S. rate, and the use rate of nonmedical institutions is 6 1/2 times greater. The Swedish use rate of medical institutions is quite similar to the U.S. use rate of such facilities, but the Swedish use rate of nonmedical facilities is four to five times as great as the U.S. rate.

Table 1

Cross-national projected institutional use rates for the elderly 65 years of age or over in medically oriented and nonmedically oriented long-term care facilities: 1980

Country	Total institutional	Medical institutional	Nonmedical institutional
	Use rate in percent		
United States	5.7	4.5	1.2
Argentina	5.0	3.9	1.1
Australia	5.3	4.2	1.1
Belgium	5.7	4.5	1.2
Canada	5.3	4.2	1.1
Costa Rica	4.7	3.7	1.0
Denmark	5.7	4.5	1.2
France	6.1	4.8	1.3
Federal Republic of Germany	5.5	4.3	1.2
Greece	5.4	4.2	1.1
Israel	4.4	3.5	0.9
Japan	4.9	3.9	1.0
Netherlands	5.8	4.6	1.2
New Zealand	5.2	4.1	1.1
Spain	5.3	4.2	1.1
Sweden	5.7	4.5	1.2
Switzerland	5.7	4.5	1.2
Turkey	4.2	3.3	0.9

NOTES: Data are based on U.S. rates. Age- and sex-specific use rates for nonmedical long-term care facilities in the United States are not available. Our best estimate is that the ratio of elderly (65 years of age or over) residing in such facilities (which in the United States are variously termed "domiciliary care facilities," "personal care homes," and "board and care homes" or "rest homes") to elderly residents of nursing homes was 0.27. We have employed this ratio in making the projections.

In contrast, the use rate of all long-term care institutions in the Federal Republic of Germany—but especially medical facilities—is considerably less than that in the United States, at least 20 percent less and perhaps as much as one-third less.

The institutionalization rate reported here for the FRG is the only rate in the study that I have reason to suspect represents significant underreporting. The questionnaire reply from the FRG indicates that as much as 10 percent of acute hospital days represent inappropriate use of the hospital for long-term care. OECD (1985) data on average length of hospital stays further indicate that the average lengths of hospital stay in the FRG was—at 18.4 days as of 1980—the highest among European countries and more than twice as high as the average length of stay in U.S. hospitals (7.3). In contrast to Japan, where an estimate (Ikegami, 1982) of the amount of long-term care provided in general hospitals was obtained, I was unable to factor this into the institutionalization rate for the FRG.

It is noteworthy that the use rates of long-term care facilities in the less industrialized countries of Costa Rica, Spain, and especially Argentina, Greece, and Turkey are considerably lower than the U.S. rate. Although population characteristics alone would make Costa Rica's actual use rate appear 20 percent lower were it actually the same as the U.S. rate, it is, in fact, less than one-half the U.S. rate. Very little of the differences in institutional use rates among the United States, Greece, and Spain appear to be attributable to population characteristics.

Table 2

Cross-national projected institutional use rates for the elderly 65 years of age or over in medically oriented and nonmedically oriented long-term care facilities: 1985

Country	Total institutional	Medical institutional	Nonmedical institutional
	Use rate in percent		
United States	5.6	4.4	1.2
Argentina	5.2	4.1	1.1
Australia	5.5	4.2	1.3
Belgium	6.4	5.0	1.4
Canada	5.5	4.2	1.3
Costa Rica	4.8	3.8	1.0
Denmark	6.0	4.7	1.3
France	7.0	5.5	1.5
Federal Republic of Germany	6.5	5.1	1.4
Greece	5.8	4.6	1.2
Israel	5.0	3.9	1.1
Japan	5.2	4.1	1.1
Netherlands	6.0	4.7	1.3
New Zealand	5.3	4.2	1.1
Spain	5.6	4.4	1.2
Sweden	6.0	4.7	1.3
Switzerland	6.2	4.9	1.3
Turkey	4.7	3.7	1.0

NOTE: Data are based on U.S. rates.

Table 3

Comparison of projected use rates versus actual institutional use rates: 1980

Countries	Total	Medical facilities	Nonmedical facilities	Total	Medical facilities	Nonmedical facilities
	Projected rate in percent			Actual rate in percent		
United States	5.7	4.5	1.2	5.7	4.5	1.2
Argentina[1] 1984	5.0	3.9	1.1	<0.1	N/A	N/A
Australia[2] 1981	5.3	4.2	1.1	6.4	4.9	1.5
Belgium[3] 1981-1983	5.7	4.5	1.2	6.3	2.6	3.7
Canada[4]	5.3	4.2	1.1	8.7	7.1	1.6
Costa Rica[5] 1980	4.7	3.7	1.0	1.5–2.0	N/A	1.5–2.0
Denmark[6]	5.7	4.5	1.2	7.0	N/A	N/A
France[7] 1982	6.1	4.8	1.3	6.3	5.3	1.0
Federal Republic of Germany[8] 1980	5.5	4.3	1.2	3.6–4.5	1.2–3.6	0.9–2.4
Greece[9] 1982	5.4	4.2	1.1	0.5	N/A	0.5
Israel[10] 1981	4.4	3.5	0.9	4.0	1.4	2.6
Japan[11] 1981	4.9	3.9	1.0	3.9	3.1	0.8
Netherlands[12] 1982–1983	5.8	4.6	1.2	10.9	2.9	8.0
New Zealand[13] 1982–1983	5.2	4.1	1.1	6.3–6.7	2.4–2.8	3.9
Spain[14] 1982	5.3	4.2	1.1		N/A	2.0
Sweden[15] 1980	5.7	4.5	1.2	8.7–10.5	4.6	4.1–5.9
Switzerland[16] 1982	5.7	4.5	1.2	7.8–9.0	2.8	5.0–7.2
Turkey[17] 1984	4.2	3.3	0.9	<0.2	N/A	N/A

[1]Calculated from bed supply figures given in the ISSA questionnaire reply provided by the National Insurance Institute.
[2]Cameron, R. J.: Australia's Aged Population, 1982. Catalog No. 41090:0. Australian Bureau of Statistics, July 1982.
[3]Calculated from figures given in the ISSA questionnaire reply provided by the National Sickness and Invalidity Insurance Institute.
[4]The figures for medical facilities are from the ISSA questionnaire reply provided by the Department of National Health and Welfare. The figures for nonmedical facilities are based on: Schwenger, C. W.: 1976 Canada Census. Paper presented at the Final Plenary Session of the National Conference on Aging. Ottawa. Oct. 1983. Paper cited in: U.S. Senate, Special Committee on Aging: *Long-Term Care in Western Europe and Canada: Implications for the United States*. Washington. U.S. Government Printing Office, July 1984.
[5]Calculated from figures given in: Costa Rican National Report for the U.N. World Assembly on Aging, Vienna, Austria, 1982 and Costa Rica, Oficina de Planificación Nacional y Política Económica, División de Planificación Global: *Lineamientos para una Política Gerontológica en Costa Rica*. San José, Costa Rica, Aug. 1980.
[6]Calculated from figures given in the ISSA questionnaire reply provided by the National Social Security Office.
[7]Based on figures from the French National Report for the U.N. World Assembly on Aging, Vienna, Austria, 1982.
[8]Based on figures from the National Report of the Federal Republic of Germany for the U.N. World Assembly on Aging, Vienna, Austria, 1982.
[9]Based on figures from the Greek National Report for the U.N. World Assembly on Aging, Vienna, Austria,1982.
[10]Calculated from figures given in the ISSA questionnaire reply provided by the National Insurance Institute.
[11]Ikegami, N.: Institutionalized and the noninstitutionalized elderly. *Social Science Medicine* 16:2003, 1982. Cited in Campbell, R.: Nursing homes and long-term care in Japan. *Pacific Affairs*, 57(1):82, Spring 1984.
[12]Calculated from figures given in the ISSA questionnaire reply provided by the Council of Sickness Funds.
[13]Calculated from figures given in the ISSA questionnaire reply provided by the Department of Social Welfare and the Department of Health and in the New Zealand National Report for the U.N. World Assembly on Aging, Vienna, Austria, 1982.
[14]Calculated from figures given in the ISSA questionnaire reply provided by the National Institute for Social Services.
[15]Calculated from figures given in the ISSA questionnaire reply provided by the National Board of Health and Welfare.
[16]Based on figures from the Swiss National Report for the U.N. World Assembly on Aging, Vienna, Austria, 1982.
[17]Calculated from bed supply figures given in: Council of Europe/Conseil de l'Europe: Colloque sur la Protection Sociale des Personnes Trés Agées—Alternatives à l'Hospitalisation, Sept. 1985, Rapport Établi par la Délégation de la Turquie, Strasbourg, France, June 1985. Also personal communication: Marsel Heisel, Assistant Professor of Social Work, Rutgers University, New Jersey, United States, based on research in nursing homes in Turkey.

NOTES: N/A is not available. ISSA is International Social Security Association.

In sum, relatively little of the cross-national variation in institutionalization rates can be explained by such demographic factors as the differential age and sex compositions of the elderly populations in different countries. It is important to bear in mind, however, that I was unable to obtain sufficient data to test the explanatory power of certain demographic variables that might prove to be more significant predictors of institutional use—in particular, differential rates of the never-married and childless elderly. Thus, according to Rosenwaike (1985), a cross-national comparison of marriage rates among women 85 years of age or over found that 21 percent in Sweden had never married, compared with 11 percent in France and 8 percent in the United States. It may be, for example, that the unusually high percentages of elderly Swedes who never married is a significant factor explaing why Sweden has such comparatively high use rates of institutional long-term care. If this is the case, then I would expect that, as future age cohorts with higher marriage rates reach the age when long-term care needs become prevalent, Sweden's institutional use rates will naturally decline, regardless of social policy efforts.

Redefining concepts of care

Earlier, in the section on definitions, it was observed that attempts to arrive at standardized definitions of "institutional long-term care" both within and across countries can help reveal the evolution of long-term care policy. An earlier study by Project Hope (U.S. Senate, 1984) of comparative cross-national institutionalization rates noted the much higher use of nonmedical residential facilities in Europe, compared with the United States. The author interpreted this as an indication of the U.S. tendency to impose a medical institutional model on long-term care. The Project Hope study considered only medically oriented facilities as institutions and classified both the older (indeed "old-fashioned") nonmedical homes for the aged and the newer forms of sheltered housing (what the Europeans call "service flats" and we in the United States call "congregate care" or service-enriched senior citizen apartments) as group quarters.

The classification framework used in the present study was quite different because, in this author's view, it is important to look behind labels to see whether the care being provided in a given setting is actually medical or social and whether, in the particular country in question, a setting is considered to be institutional or noninstitutional. In the course of this study, it was often difficult to differentiate medically oriented from nonmedical residential long-term care settings. It was also difficult, in some instances, to decide which nonmedical residential facilities should be counted as institutions and which as sheltered housing. This was particularly the case for Sweden, where many elderly persons are being deinstitutionalized in place as older homes for the aged are converted into service flats with supportive services. Swedish officials insist that, unlike the older homes for the aged, the service flats are not institutions.[1] The distinction between institutional and noninstitutional housing often is a matter of interpretation. For example, the central office of a complex of service flats may be equipped with a lightboard so that the management can monitor the flushing of residents' toilets: Failure to record a toilet flush at least once per day triggers an investigatory visit to make sure that the resident is all right. One could question whether this sort of bureaucratic monitoring of intimate bodily functions is correctly classified as noninstitutional in character. Yet Swedish officials maintain that this system represents a much less obtrusive form of protective surveillance than the methods typically used to keep tabs on residents in institutional settings. Similarly, service flats with supportive services are not considered institutions because the providers of nursing, personal care, and homemaker or chore services do not work for the building management but rather are municipal employees whose service district for in-home care happens to be a particular building.

In grappling with these sorts of definitional problems, it became increasingly clear that they stemmed only in part from difficulties of distance and ambiguous or untrustworthy secondary data. Rather, the more fundamental problem is one of trying to classify phenomena in process of change. In many instances, facilities whose names suggest that they provide nonmedical care turned out either to have been deliberately medicalized in recent years (France, Belgium) or the literature on resident and/or staffing characteristics indicates that they have turned into de facto nursing homes because their populations have become more disabled and the facilities have been forced to respond by adding appropriate staff (FRG, Britain). A recurrent theme in the European literature is the problem of homes built to care for the independent elderly that are increasingly forced to cater to disabled populations without sufficient funds to provide needed nursing care.

Why European countries historically developed so many more nonmedical institutions than the United States, Canada, Australia, and New Zealand is an issue the author does not have space to go into in detail here. A major factor was clearly Europe's older, less modern housing stock. Until quite recently, large numbers of elderly people in Europe, especially in rural areas, lived in housing without such things as running water, indoor plumbing, or modern bathing facilities. Moreover, in The Netherlands, during the

[1]This information was obtained by personal communication in 1987 with Aurora Zappolo, then with the Office of Research and Demonstrations, Health Care Financing Administration. Ms. Zappolo visited Sweden in October 1986 at the invitation of the Swedish government to provide technical consultation for a planned national nursing home survey. In the course of the visit, she toured several nursing homes, homes for the aged, and service flat complexes, including facilities in the process of being converted from residential institutional care to service flats. She had numerous conversations with national and local officials and university-based researchers about the definitions of institutional versus noninstitutional care in Sweden.

post World War II period of severe housing shortages, government policy encouraged the elderly to move into homes for the aged to free up housing for young families. As housing in Europe has been modernized and the economic position of the elderly has improved, the need for purely residential institutions has greatly decreased.

Accordingly, the balance both of medical to nonmedical institutions and of nonmedical institutions to less institutional forms of sheltered housing is shifting. Increasingly, it appears that the low-income elderly who are still independent in activities of daily living, though perhaps in need of help with instrumental activities of daily living, are residing in service flats and other sheltered housing arrangements rather than in nonmedical institutions. The movement to phaseout nonmedical institutions in favor of service flats has been particularly striking in Britain and, most recently, in Scandanavia. The medicalization of the institutional sector has been particularly strong in France, Belgium, and Great Britain. The net result is that, within the institutional sector of the advanced industrial countries, there is a growing emphasis on medically oriented facilities, which reflects the older, more functionally dependent populations in these countries.

In the less industrialized countries of Greece, Spain, Turkey, Argentina, and Costa Rica, long-term care institutions tend still to be largely nonmedically oriented and, indeed, often accept only the independent elderly. This then raises the question of where the chronically impaired elderly are receiving care. It is difficult to imagine that all the functionally impaired elderly who in the United States or The Netherlands or France would be in a nursing home or equivalent facility are being cared for at home by family members when institutions exist for the care of nonfunctionally impaired elderly. One hypothesis is that medically oriented long-term care of the elderly is not differentiated from acute inpatient care and that both types of care are provided in general hospitals (although care of the demented may be provided in mental hospitals). Data on length of stay in general hospitals collected by OECD (1985) indicate that average lengths of stay in Turkish and Greek hospitals are similar to that of the FRG (18 days). This would indicate that, as in Germany, there is more long-term care provided in hospitals than is typical of other European countries, but much less long-term care is provided in hospitals in Greece and Turkey than is the case in Japan.

Evolutionary trends

Overall, the issues that emerged in the course of trying to define and measure use rates for institutional long-term care suggested that patterns of use of various kinds of institutions for long-term care should be viewed in a developmental perspective. In the past, efforts to interpret the rise of nursing homes and homes for the aged in a historical, developmental perspective emphasized the alleged breakdown of family structure and the social isolation of the elderly brought about by industrialization. Subsequent research on patterns of family caregiving in the industrialized countries have shown these interpretations to be, at best, greatly exaggerated (Shanas, 1979; Brody, 1985; Doty, 1986). That is, there is considerable evidence from research on family caregiving in the United States, Australia, and Europe, (e.g., Stone, Cafferata, and Sangl, 1986; Kendig and Rowland, 1983; Conférence des Ministres Européens chargés des Affaires Familiales, 1985) that informal caregiving remains at a very high level in industrialized countries. The perspective being suggested here is one that focuses rather on the evolution of health care policy and the organizational structure of the health services sector both in the light of each country's own individual history and relative, cross-national stage of development.

Medically oriented long-term care institutions, as distinct from residential homes for the aged, appear to arise within a country's health care system as hospitals develop more and more of a short-term, acute care versus chronic care focus, as hospitals become more specialized and more technology intensive; as hospital costs rise; and as the level of concern mounts in regard to the cost and health insurance financing implications of lengthy hospital stays.

Indeed, it appears that a prime force in the development of specialized medically oriented long-term care facilities has been the drive to cut hospital costs. This policy has been most explicitly pursued during the 1980's in Belgium and Great Britain. In most countries, hospital costs for the elderly are covered under public health insurance programs, whereas only in The Netherlands is nursing home care given anything approaching comparable coverage. Thus, a movement to create specialized medically oriented long-term care facilities to replace care given in geriatric or regular wards of hospitals or in mental hospitals can be a means to relieve rising costs experienced by the health care scheme if, as is typically the case, the health care scheme is not then given responsibility (or is given only very limited responsibility) for financing the costs of specialized medically oriented facilities. Conversely, a few countries—most notably the FRG and Japan—appear to have a higher political and economic tolerance for rising hospital costs than others. So long as this tolerance is sustained (there are indications that it is breaking down in Japan because of the rapid aging of the population), the drive to cut hospital lengths of stay and costs by banishing chronic care from the hospital setting is not as strongly in evidence as it is elsewhere.

Financing modes

In the United States, health services analysts generally assume that use of medical services, including nursing homes, is strongly influenced by the availability of government financing. One might

therefore theorize that higher use rates of long-term care institutions in some countries relative to others may be associated with more generous government financing in the countries with the higher use rates. Such a hypothesis would be in line with the widespread belief here in the United States that most other advanced industrial countries finance long-term care under their national health insurance programs. This would imply that, in other countries, long-term care is considered to be part of a broad entitlement to health care and that cost-sharing requirements are similar to what they are for hospital and physician care. It was found in the present study, however, that most other countries do not cover long-term care under national health insurance. Moreover, those that do offer it, impose either very significant limitations on coverage and/or cost-sharing requirements that are more sizable than those required for acute care services.

Government funding for institutional long-term care in about one-half the countries surveyed is provided on a welfare basis rather than on an insured entitlement basis. This means that, as in the United States, elderly persons who are not receiving cash assistance must first use up all their private income and assets paying for institutional long-term care before they become eligible for government funding. In a majority of the remaining countries, private payments, including payments by individuals using their social security pensions, remain a major source of financing for institutional care, but government funding is not contingent on all private resources being exhausted. For example, in Canada, elderly persons must contribute their social security pensions toward the cost of care, but they are not required to contribute other income or assets. In the Scandanavian countries, elderly residents of long-term care facilities are required to contribute their social security pensions plus a percentage (ranging from 60 to 80 percent) of all other income toward their care, but they are not required to liquidate or exhaust their assets. In France, the medical component (on the average 14 percent and, at maximum, 50 percent of long-term care facility costs) is funded through national health insurance, but elderly individuals are responsible for paying the nonmedical or room-and-board component of care. If elderly individuals cannot afford to pay privately for room and board in a long-term care facility, they must apply for welfare assistance.

Institutionalization rates tend to be lower in countries with less generous (i.e., means-tested) government financing; however, this is far from a simple relationship. For example, The Netherlands has the highest overall rate of institutionalization of all the countries studied. Yet the rate of use of the "AWBZ" homes (the equivalent of U.S. skilled nursing facilities), which are covered under national health insurance with low cost-sharing, is only 3 percent; whereas the use rate for less medicalized facilities, where residents must pay privately until they have exhausted their resources, is 8 percent. Further exploration suggests that the relationship between financing and institutionalization rates is strongly mediated by institutional bed supply. Indeed, it seems likely that controls or lack of controls on the bed-to-population ratio has more impact on variations in institutional use rates than the eligibility, coverage, or cost-sharing rules associated with government financing of institutional care.

Availability of government-funded noninstitutional long-term care is highly variable and much more difficult to measure than institutional bed supply. As is the Medicare home health benefit, home nursing is typically covered by national health insurance programs with little or no patient cost sharing required. On the other hand, use rates of home nursing services vary greatly, ranging from 30-40 home nursing service users per 1,000 elderly in the United States, Israel, and Sweden to 164 users per 1,000 elderly in The Netherlands. Home-delivered nursing is a relatively recent phenomenon in France, having only been included in national health insurance coverage since 1981. Home nursing is also a relatively new benefit in the FRG; and, in Japan, coverage of home nursing under national health insurance is still under discussion. Just as in the United States, however, professional home nursing care in most European countries appears to be primarily a short-term service used mainly by persons recovering from an acute illness that required hospitalization.

In virtually all countries, there seems to be resistance to covering nonmedical long-term care services under the rubric of health programs. New Zealand, where all types of home-care services are frequently authorized by and coordinated out of hospital-based geriatric assessment units and funding is provided by local hospital boards, is a partial exception to this rule, although, even here, hospital-board funding for the nonmedically oriented services is less uniform and is more likely to be allocated on the basis of financial need. In addition, a number of Canadian provinces make available a range of noninstitutional long-term care services through their health insurance programs.

In most European countries, however, nonmedical home- and community-based long-term care services are generally characterized as social services, and they are administered locally, though they are likely to be paid for by a combination of central and local government financing. Such funding appears to be most generous in the Scandanavian countries and Britain. Although eligibility for these services is not means-tested in Scandanavia, income-related copayments are required. Sliding-scale cost sharing is also required from home-help clients in France, where close to 5 percent of all elderly living in the community receive such care. In Britain, publicly funded home help is targeted primarily toward the low-income elderly who have heavy disabilities and live alone.

Home-care alternatives

The question of whether publicly financed home care does or can provide alternatives to institutionalization is a complicated one, but, on balance, this analysis suggests that reported policy initiatives to promote noninstitutional alternatives to institutional long-term care have had only very limited success. There is some evidence, primarily from Sweden and the other Scandanavian countries, that home-delivered services, especially those provided in sheltered housing environments (e.g., service-flats) can be used to reduce use rates of old-fashioned nonmedical homes for the aged. Only in the case of Britain has there been a historic association between an emphasis on funding home help and comparatively low institutionalization rates. Here again, however, the evidence suggests that it was primarily political decisions to limit the availability of bed supply that kept institutional use rates low more than the elderly and their families choosing to use institutions less because home- and community-based alternatives were available. For many years, both the growth in National Health Service geriatric beds and the local authority home residential beds failed to keep pace with population growth and aging. The private nursing home building boom of the 1980's in Britain and the extension of social security means-tested financing to cover the costs of care in private nursing homes indicate, however, that demand can be artificially restrained only so far. Although Britain (at 4-5 percent) still has one of the lowest levels of elderly institutional use among the Western industrialized countries, the British case may well represent the limits of effective, adequate substitution of home- and community-based care for institutional care (Hobman, 1981; Larder, Day, and Klein, 1986).

Most countries that have expanded or are in the process of expanding either services in the home or such halfway services as day hospitals claim to be doing so in order to reduce institutionalization rates. The data suggest—albeit in most cases more by inference than by direct measures—that home- and community-based services complement, rather than substitute for, institutional-level care. Thus, greater availability of public funding for noninstitutional services is not systematically associated with lower cross-national use rates of institutional care. Indeed, use rates of these noninstitutional services tend to be especially high in those countries that also have above-average institutional use rates (e.g., Sweden, The Netherlands). It is therefore inferred that the populations typically served by home-care programs tend to be more moderately disabled than those in institutions, and most such clients are probably not at imminent risk of institutionalization. The association between above-average institutional use rates and more generous funding for home-care services probably means that both are indicative of a greater political will to spend government funds on long-term care generally.

There appear to be a number of reasons for the limited success of home- and community-based care as a true alternative to institutionalization. Two factors that stand out as being potentially amenable to policy change are the insufficiency of the services offered and the lack of coordination among providers and payers of medical versus social services.

In general, the types and amounts of home-care services currently being offered better serve the needs of the mild-to-moderately disabled than they do the needs of persons imminently at risk of institutionalization. Everywhere, these are almost exclusively oriented toward providing either professional nursing care (injections, dressings, etc.) or a few hours per week of assistance with instrumental activities of daily living (homemaker or chore services). The kinds of intensive (i.e., 20 hours or more per week, including nights if needed) nonprofessional nursing or personal care required by persons with severe impairments in ability to perform activities of daily living (bathing, dressing, toileting, eating) are typically not widely available in any of the countries surveyed, including those generally thought of as providing comparatively generous financing for home-care services. In part, this is because European countries are no more willing than the United States to spend more per person, per day on noninstitutional care than on institutional care. (Comité Européen de Santé, 1985). Recently, some of the Scandanavian countries have become conscious of the limitations of existing services, and they have tried to increase their usefulness to the severely disabled by offering some night and weekend coverage, albeit still on a limited basis.

Inadequate coordination of the different types of services provided or financed by medical versus social services agencies or by different levels of government (national, regional, and local) was cited as a problem by most countries replying to the ISSA questionnaire. Although New Zealand, Denmark, and a few of the Canadian provinces have made greater progress toward integrated long-term care delivery systems than other countries, fragmentation of long-term care services organization and financing is a perceived problem in virtually all countries.

Summary

Use rates of institutional long-term care among the elderly in advanced industrial countries vary almost threefold. The United States (along with Japan, Britain, and the FRG) has one of the lowest use rates for institutional long-term care among industrialized countries, whereas Sweden and The Netherlands have the highest use rates.

Cross-national variation in use rates of nonmedical institutions is greater than that of medically oriented facilities. Population characteristics—that is, older, more female elderly populations—account for only part of the higher institutionalization rates in some countries. Although institutionalization rates are

generally lower in countries where public financing for institutional long-term care is available only on a means-tested basis, it appears that the relationship between government financing and institutional use rates is mediated by bed-supply policy. Tight bed-supply controls can curb the use of long-term care facilities generously financed by national health insurance, and use rates of more generously supplied facilities are much higher even where public financing is means-tested. Generous public financing for home care is more often associated with countries also having above-average institutionalization rates—suggesting that both are related to greater political willingness to spend public monies on long-term care services across the board.

The lack of a systematic association between generous home-care financing and below-average institutional use indicates that policy initiatives aiming at reducing institutional use through increased public funding of home care services have not been particularly successful. There is some evidence, however, from the Scandanavian countries, that it is possible to use home care in combination with sheltered housing to reduce the use rates of nonmedical institutions, particularly where use rates of such facilities have been especially high.

The following two countervailing evolutionary trends are observable:

- Increased medicalization of the institutional long-term care sector, particularly in countries that historically had relatively few freestanding medically oriented facilities and most medically oriented long-term care was provided in hospital or mental hospital settings.
- A move to phase out nonmedically oriented institutions in favor of sheltered housing (elderly service flats).

The net result for the future is likely to be that the institutional long-term care sector in most countries will be more medically oriented. Overall, institutional rates may rise somewhat in countries with historically low use rates—especially where the lack of specialized, medically oriented long-term care has caused the unintended use of general hospital beds for long-term care, and this phenomenon has not been measured sufficiently well to figure in the calculation of national institutionalization rates (e.g., FRG and Britain). On the other hand, overall institutionalization rates may well drop somewhat in those countries with historically above-average use rates of nonmedical institutional facilities (Sweden, The Netherlands), even if use rates of medical facilities rise as many of the nonmedical facilities are phased out and replaced with noninstitutional sheltered housing.

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Contributors

A. E. Benjamin, Ph.D., is currently adjunct associate professor and associate director, Institute for Health and Aging, University of California, San Francisco. His current research involves the outcomes of post-hospital care for the elderly and the design of cost-effective community delivery systems for persons with acquired immunodeficiency syndrome.

Andrew Bergman, M.M.H.S., is a research associate at the Bigel Institute for Health Policy, Brandeis University, and has research interests in managed care, ambulatory care, and patient classification systems.

Thomas R. Burke is Chief of Staff of the U.S. Department of Health and Human Services. He serves as a key advisor to the Secretary. He was instrumental in development of Medicare's prospective payment system and passage of the recent Medicare catastrophic health insurance legislation. His background is in economics, and he is a Ph.D. candidate in economics at Boston College.

John A. Capitman, Ph.D., is a senior research associate and director of long-term care at the Bigel Institute for Health Policy. Dr. Capitman was a co-principal investigator in the evaluation of Robert Wood Johnson Foundation's program for hospital initiatives in long-term care. He is involved in several other projects on community care provision and management of the boundaries between medical and long-term care.

Ann F. Collard, R.N., Ph.D., is a research associate at the Bigel Institute for Health Policy, Brandeis University. Her major research interests are high cost care and gerontologic health.

Marc A. Cohen, Ph.D., is senior product development manager at LifePlans, Inc., a long-term care product development and risk management firm. Prior to joining LifePlans, he was at the Bigel Institute for Health Policy at Brandeis University. He conducted extensive research on the risks and costs of long-term care use and the factors associated with use. He received his doctorate from the Heller School at Brandeis University and his masters degree from the Kennedy School of Government at Harvard University.

Marilyn Desmond is the deputy director for the Elderly Pharmaceutical Insurance Coverage (EPIC) program. She was the project manager of the grant to develop the RUG-II system and coordinated the project research activities with the New York State Department of Health and other agencies. She has also been involved in the design and planning of community long-term care services for the elderly.

Pamela Doty, Ph.D., is a policy analyst in the Office of the Assistant Secretary for Planning and Evaluation of the U.S. Department of Health and Human Services. She has previously worked for the Office of Legislation and Policy in the Health Care Financing Administration, the Office of Technology Assessment of the U.S. Congress, and the Center for Policy Research in New York City.

Gerald M. Eggert, Ph.D., is executive director of the Monroe County Long-Term Care Program, Inc./ACCESS in East Rochester, New York. He has been the project director of several long-term care demonstrations. His research interests include designing and evaluating special interventions to reduce the use of hospitals and nursing homes by the chronically ill.

Catherine Eng, M.D., has been a staff physician at On Lok since 1981 and supervising physician since 1986. In addition to her primary care responsibilities, she coordinates the Standards of Care Committee, working to develop quality standards and measures for community long-term care. Dr. Eng received her doctor of medicine degree from Columbia University, and completed training in internal medicine at Columbia-Presbyterian Medical Center in New York City.

William J. Foley is an assistant professor in the Department of Decision Sciences and Engineering Systems at Rensselaer. He was the principal statistician on the RUG-II project. He directed the project to develop the RUG-HHC, a case-mix system for home health care. His current research activities include measurement of nursing home quality.

Bruce Friedman, M.P.H., is the director of research and planning at the Monroe County Long-Term Care Program, Inc./ACCESS in East Rochester, New York. His recent work has primarily focused on high utilizers of hospital care and approaches to reducing that use. Prior to coming to ACCESS he was a strategic planner for a hospital system in Rochester, where much of his work involved planning for the elderly and the chronically ill.

Brant E. Fries is an associate professor of health services management and policy and head of the concentration in long-term care administration and policy, School of Public Health; and associate research scientist, Institute of Gerontology at The University of Michigan. He was the associate project director of the RUG-II project, and directed both the development of the pilot RUG system and a RUG-T18 system for Medicare. His current work is in classifying both long-term care and psychiatric patients.

William J. Gormley is the assistant director of the Division of Health Care Financing in the Office of Health Systems Management, New York State Department of Health. He had administrative responsibility for the development of the RUG-II system and is the manager for the operation of the RUG-II payment system and the Patient Review Instrument data collection system.

Marian Gornick is Director, Division of Beneficiary Studies, in the Office of Research, Health Care Financing Administration. The Division is involved in a program of intramural and extramural activities relating to the impact of the Medicare and Medicaid programs on the beneficiaries. Currently, a major priority area in the Division is developing knowledge and information relating to quality of care, including data about variations in the use of services and the outcomes of care.

Margaret Jean Hall, Ph.D., is a sociologist in the Division of Reimbursement and Economic Studies, Office of Research, Health Care Financing Administration. Her research interests include nursing home case-mix reimbursement, home care for the functionally disabled, and quality of long-term care.

Mary F. Harahan is Director, Division of Disability, Aging and Long-Term Care in the Office of Social Services Policy, U.S. Department of Health and Human Services. She chaired the Technical Group supporting the Working Group on Policies Affecting Mentally Retarded and Other Developmentally Disabled Persons.

Mary G. Henderson, Ph.D., is a senior research associate at the Bigel Institute and an adjunct lecturer at the Heller School, Brandeis University. Her major research interest is in the development, implementation, and evaluation of managed care approaches to high-cost and at-risk populations.

Michael C. Hendrickson, Ph.D., currently is President of Vintage American Corporation, a real estate investment and development company specializing in alternative housing and health care products for frail elderly. Previously, he was President of The Center for Health and Social Services Research, Inc., a health policy research firm based in Pasadena, California. Since 1979, he has served as adjunct professor for long-term care administration, University of Southern California, Los Angeles, California. He has a bachelor of arts degree and two master degrees besides his doctorate from the University of Minnesota.

Philip R. Lee, M.D., is professor of social medicine, and director of the Institute for Health Policy Studies, University of California, San Francisco (UCSF). He served as chancellor of UCSF from 1969 to 1972 and was assistant secretary for health and scientific affairs in the Department of Health, Education, and Welfare from 1965 to 1969. Currently, he serves as president of the Health Commission for the City and County of San Francisco and as chairman of the Physician Payment Review Commission established by the U.S. Congress.

Walter Leutz, Ph.D., is senior research associate and associate director for long-term care at the Bigel Institute for Health Policy. Dr. Leutz is also director of the social health maintenance organization and principal investigator for a John A. Hartford Foundation study to explore national models for long-term care financing services and benefits.

Margaret MacAdam, Ph.D., is a senior research associate at the Bigel Institute for Health Policy with extensive research experience in community-based long-term care programs. Currently she is principal investigator on projects studying the provision of case management in home care programs and the quality of care of homemaker services.

Mark R. Meiners, Ph.D., is the associate director for Economics of Aging and Health, at the University of Maryland's Center on Aging. He is also the director of the Robert Wood Johnson Foundation Program to Promote Long-Term Care Insurance for the Elderly. Formerly he was with the National Center for Health Services Research and Health Care Technology Assessment. He holds a doctorate in economics from Georgetown University. Dr. Meiners specializes in the areas of aging and health with emphasis on financing and reimbursement issues.

Rhonda J. V. Montgomery is an associate professor of sociology and the director of the Institute of Gerontology at Wayne State University in Detroit, where she conducts research on aging and public policy. She is also the co-editor of the Journal Research on Aging.

Donald W. Moran is presently a vice president and principal of Lewin/ICF, a health policy consulting firm based in Washington, D.C. From 1981-85, Mr. Moran worked in the Executive Office of the President/Office of Management and Budget. He previously served as legislative assistant to Congressman David A. Stockman (R-MI) and held various appointments in local government in Michigan. Mr. Moran graduated from the University of Illinois with a bachelor of science in mathematics in 1973, and did graduate work in labor economics and public administration at the University of Michigan in 1976-77.

Thomas G. Morford is the Director of the Health Standards and Quality Bureau, Health Care Financing Administration (HCFA). He has been with the Department of Health and Human Services since 1971 and has held various managerial positions in the Department. Currently, he is responsible for HCFA's efforts to assure quality health care for Medicare and Medicaid beneficiaries. This includes management of the peer review organization program, the survey and certification program, and end-stage renal disease networks.

Margaret E. Porter is a senior analyst in the Office of Social Services Policy, Department of Health and Human Services and was project coordinator for the Working Group on Policies Affecting Mentally Retarded and Other Developmentally Disabled Persons.

Jeffrey Prottas, Ph.D., is a senior research associate and deputy director of the Bigel Institute for Health Policy. Dr. Prottas is currently engaged in research regarding the interaction between technology, public policy, and social values in the area of organ transplantation, and was appointed to the President's Task Force on Organ Transplantation. He is also principal investigator on several projects examining attempts in restructuring health care systems using gatekeeping and case management approaches.

William J. Scanlon, Ph.D., is co-director of the Center for Health Policy Studies of the Georgetown University School of Medicine. He is an economist and has undertaken extensive research on long-term care. He has focused particularly on the role and impacts of public programs in the nursing home market. Currently, he is involved in projects to analyze the impact of Medicare's hospital prospective payment system on the use of post-hospital care and to evaluate efforts to develop private markets for long-term supportive services.

Don P. Schneider is the director of the Health Systems Management Program at Rensselaer. He was the director of the Health Care Financing Administration grant to develop the RUG-II system and currently is directing a grant to link an outcomes-process quality assurance survey with the RUG-II system.

Sharon N. Solkowitz, M.P.H., is a research associate with a background in health policy, planning, and health services research. Currently, she is coordinator of a disease prevention education research project in the Department of Medicine, University of California, San Francisco (UCSF). Formerly, she was with the AIDS Resource Program, Institute for Health Policy Studies, UCSF.

Barbara A. Souder, Ph.D., is a PEW Scholar at Brandeis University who recently completed her doctoral dissertation on medical case management. She is on an educational leave of absence from the U.S. Department of Health and Human Services where she served as the deputy director, Office of Policy Analysis, National Institute on Alcohol Abuse and Alcoholism.

Arnold R. Tompkins is Deputy Assistant Secretary for Social Services Policy, U.S. Department of Health and Human Services. He served as co-chair of the working group on Policies Affecting Mentally Retarded and Other Developmentally Disabled Persons.

Stanley S. Wallack, Ph.D., is President of LifePlans, Inc., a long-term care insurance product development and risk management company and the Director of the Bigel Institute for Health Policy at the Heller Graduate School of Brandeis University. He previously served as Deputy Assistant Director for Health, Income Assistance, and Veterans Affairs, at the Congressional Budget Office, and Director of the Division of Health Resources in the Office of the Assistant Secretary for Planning and Evaluation, Department of Health, Education, and Welfare. His recent research has focused on long-term care financing and delivery, alternative acute health care systems, and management of catastrophic illness.

Janet M. Weingart is a consultant at Lewin/ICF, a health policy consulting firm based in Washington, D.C. Her major areas of interest include health care financing and long-term care. She received her bachelor of science degree in neurobiology from Cornell University and her master of public policy degree in Health Policy from Harvard University's John F. Kennedy School of Government.

Maurice D. Weinrobe, Ph.D., is Professor of Economics at Clark University. His recent research has been in the area of housing and housing finance, including consumer protection, and risk assessment of natural hazards on mortgage default. On the subject of home equity conversion, Dr. Weinrobe has developed new instruments and studied the United States experience.

Don Westwater, M.P.H., is a research associate at the Bigel Institute for Health Policy. His work has been in the areas of marketing and finance of alternative health delivery systems for the elderly, hospital reimbursement systems, program evaluation, and rural health care systems.

Donna L. Yee has been at the Bigel Institute for Health Policy while attending the Heller School's doctorate program at Brandeis University. Her experience in long-term care settings includes work at a home health agency, On Lok Senior Health Services, and a 1,100-bed county chronic care hospital. She has a master of social work degree from the University of Washington.

Cathleen L. Yordi, DSW, is a senior research analyst with Berkeley Planning Associates. Currently, she directs the primary data collection for the social health maintenance organization (S/HMO) evaluation and is analyzing case management's role in the S/HMO. Previous research includes evaluating a range of community-based long-term care programs for the elderly.

Rick T. Zawadski, Ph.D., served as On Lok's research director from 1975 to 1988. He developed a program-based, policy-oriented research approach, working closely with service program staff to address significant policy issues. He received his doctorate in social-organizational psychology from the University of California, Berkeley.

Reviewers

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Jean L. Bainter
Health Care Financing Administration

Dana Burley
Health Care Financing Administration

William Clark
Health Care Financing Administration

Elizabeth Cornelius
Health Care Financing Administration

Judith Feder
Center for Health Policy Studies

Michael Fitzmaurice
National Center for Health Services Research

William Foley
Rensselear Polytechnic Institute

Alan Friedlob
Health Care Financing Administration

Marian Gornick
Health Care Financing Administration

Ray Hanley
Brookings Institution

Michael Henesch
Health Care Financing Administration

Bruce Jacobs
University of Rochester

Rosalie Kane
University of Minnesota

Mary S. Kenesson
Health Care Financing Administration

Margaret MacAdam
Brandeis University

David Mechanic
Rutgers University

John N. Morris, Ph.D.
Hebrew Rehabilitation Center for Aged

Barbara Phillips
Mathematica Policy Research

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Connecticut Community Care, Inc.

Gerald F. Riley
Health Care Financing Administration

Leslie Saber
Health Care Financing Administration

Judith Sangl
Health Care Financing Administration

William Saunders
Health Care Financing Administration

George J. Schieber, Ph.D.
Health Care Financing Administration

Robert E. Schlenker, Ph.D.
University of Colorado Health Sciences Center

Laura J. Secord
Oblate, Ministries for Health and Aging

Donald J. Sherwood
Health Care Financing Administration

Herbert Silverman
Health Care Financing Administration

Wayne R. Smith, Ph.D.
Health Care Financing Administration

Robyn Stone
National Center for Health Services Research

Sherry Terrell
Health Care Financing Administration

Joshua M. Wiener
Brookings Institution

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Articles should be approximately 25 to 35 doublespaced typed pages, including up to a maximum of 10 tables and figures; the *Review* cannot reproduce photographs. All tables, charts, and other art should be clear without reference to the text. They should be individually and succinctly titled; their footnotes should be keyed with numbers rather than symbols. Tables should not have vertical lines or leaders. All art should be black and white only.

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Managing Editor
Health Care Financing Review
Rm. 1-A-9 Oak Meadows Building
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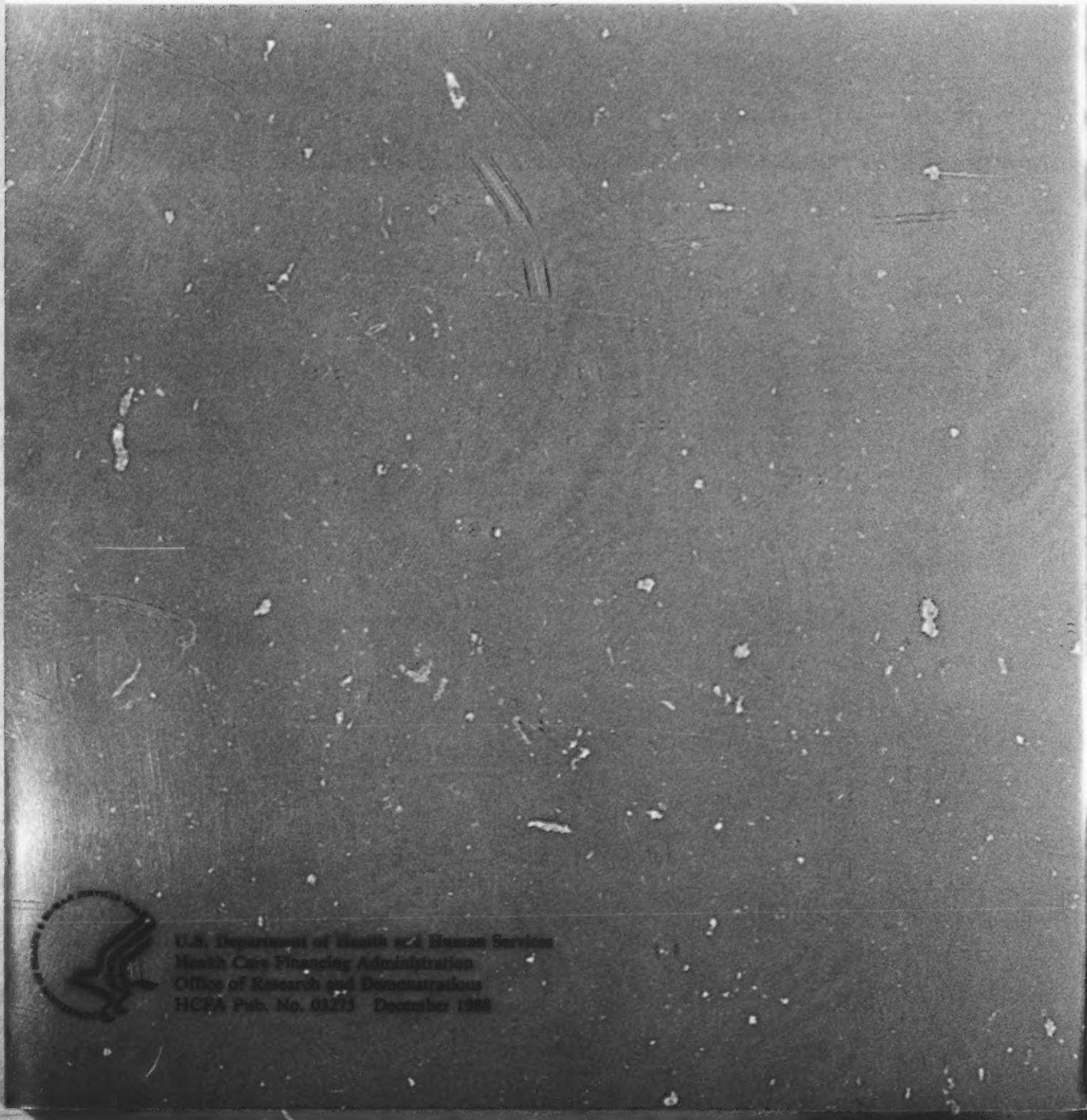
Baltimore, Maryland 21207

U.S. Department of
Health and Human Services
Health Care Financing Administration
1A9 Oak Meadows Building
6325 Security Boulevard
Baltimore, Maryland 21207



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